

THE CURRENT STATE OF COMPETITION IN THE COMMUNICATIONS MARKETPLACE

HEARING BEFORE THE SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET OF THE COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES ONE HUNDRED EIGHTH CONGRESS

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THE CURRENT STATE OF COMPETITION IN THE COMMUNICATIONS MARKETPLACE

WEDNESDAY, FEBRUARY 4, 2004

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
Washington, DC.

The subcommittee met, pursuant to notice, at 1:15 p.m., in room 2322, Rayburn House Office Building, Hon. Fred Upton (chairman) presiding.

Members present: Representatives Upton, Barton, Stearns, Whitfield, Shimkus, Pickering, Terry, Markey, McCarthy, Davis, Towns, Stupak, Engel, and Dingell (ex officio).

Staff present: Howard Waltzman, majority counsel; Neil Fried, majority counsel; Will Nordwind, majority counsel; William Carty, legislative clerk; Gregg Rothschild, minority counsel; Peter Filon, minority counsel; and Jessica McNiece, minority research assistant.

Mr. UPTON. Good afternoon. Today is the first in a series of hearings this year in which the subcommittee will examine the state of competition in the communications marketplace. What I think we will hear today from our witnesses is that the marketplace has evolved dramatically since Congressional debate on and passage of the Telecommunications Act of 1996.

Without a doubt, intermodal facilities based competition has taken root, as both voice and data are being delivered into homes and businesses over multiple technological platforms. Wireless carriers are competing head to head with wire line carriers.

Cable companies dominate the broadband marketplace in competition with telephone companies. Moreover, cable companies and others are rapidly ramping up their VoIP, "voice over internet protocol" offerings, which is transforming the whole voice marketplace. However, all of this robust competition is a by-product of the free market forces that have been allowed to flourish, where government, by and large, has kept its hands off.

In stark contrast, certain elements of so called competition are government managed, based on an outdated notion of the telecommunications marketplace. I suspect we knew no better in 1996, but we know better now, and now is the time for Congress to begin the process of retooling the 1996 Act, to bring it up to speed to today's as well as tomorrow's marketplace and technology. That is what this hearing begins to do.

I yield now to the ranking member, my friend, the very happy gentleman from Massachusetts, Mr. Markey, especially by Mr. Brady.

Mr. MARKEY. We thank you for Tom Brady from Michigan and Boston. We thank you for the Michigan primary, for Mr. Kerry from Boston.

Mr. UPTON. Ty Law?

Mr. MARKEY. Yes. Could I just pass at this moment? Would that be all right, and recognize one of the other members, and I will come back.

Mr. UPTON. Sure. Mr. Stearns.

Mr. STEARNS. Thank you, Mr. Chairman. I think we all remember the Telecom Act in 1996 and the significant changes it made, and I want to compliment you for having a hearing this morning to see the progress.

In Florida, of course, we have seen CLECs obtain a roughly 16 percent of the market share with the majority of that being in the business sector. Also, with the end of section 272 applications, we have an indicator that the local market is sufficiently open to competition.

In wireless, we see that nearly half the U.S. population subscribes to a wireless service provider. In short, the American consumer has not been disappointed with the availability of advanced and reliable telecommunications services and the ability to choose their provider through robust competition.

Last year, of course, we had hearings on the health of the telecommunications sector. What we learned then, that regulatory uncertainty is a chief obstacle to sufficient and long term investment. I think that will probably be confirmed by a lot of our witnesses today.

As we look at the regulatory arena, one particular area I would like to focus on is the voice over internet protocol. In 2003 the State of Florida chose to allow voice over IP to develop free from unnecessary regulation, which is the proper course, in my opinion.

Voice over has the capability to truly modernize the telecommunications market with advanced voice and data services. The FCC is currently examining this issue, and I think Chairman Powell is heading in the right direction in terms of voice over regulatory treatment. I do not envy their task, for there are a myriad of questions surrounding the developing of this technology.

At its most basic, voice over converts analog signal to digital, transmits over an IP network, then reconverts to analog at the end user, phone to phone IP telephony. However, voice over can also operate solely on a broadband network.

In this manner, the service does not access the public switch telephone network. You can also have a voice over phone transmitting to an analog phone whereby the PSTN is accessed at the receiving end.

So herein lies the problem in pigeonholing voice over into an outdated regulatory framework. One voice over is not like the other. How do you address access charges when the PSTN is not accessed? Is voice over using only a broadband network, entirely a telecommunications service, enhanced service or simply an application?

In addition, there are a number of consumer issues at hand. E-911: I do not believe that public safety should have to pick and choose which technology should adhere to E-911. This service should be uniform in the market, but on a pure voice over system, how do you locate the caller? If the user lives in Florida half the year, yet maintains a New York number, which PSAP is accessed?

Among other issues, how would universal service obligations apply? What about services for the hearing impaired, number portability, and possible area code exhaustion?

Here we are nearly 10 years after the Telecom Act of 1996, and we encounter a whole new technology that does not fit the regulatory framework that the Federal Government designed. So I think it is very appropriate, Mr. Chairman, that we see the health of the industry, talk about some of the new technology, and government, I think, should, if possible, not issue new regulation and just let the new technologies move forward and not be sentenced to a morass of outdated, inflexible regulations.

So, Mr. Chairman, I again compliment you for this hearing, and I look forward to the testimony of our witnesses.

Mr. UPTON. Thank you. Mr. Markey.

Mr. MARKEY. Thank you, Mr. Chairman, very much, and I wanted to compliment you this timely hearing.

The telecommunications marketplace remains in the doldrums, although there are hopeful signs that parts of the marketplace are beginning to rebound. The health of the marketplace sector can be measured by various ways, and one's assessment of marketplace wellbeing depends on what one considers optimal health.

The workforce looks to job growth and reasonable wage increases over time. Consumers typically look to choice, service quality, and price. Investors often look to the bottom line. That is profitability. Manufacturers like to have many outlets for their products, so that they have a myriad of potential buyers.

As such, what investors may think constitutes a wise investment in a healthy economy or sector might put them at odds with what consumers and workers see as healthy. A telecommunications marketplace with multitudes of companies engaging in fierce competition with ever lower prices, higher quality and new services is the kind of market we seek to create and the kind of marketplace for which the vast majority of consumers yearn.

Yet for investors, that kind of competition may not be a good investment, because it is a highly competitive marketplace, often with low profitability and higher risks. In other words, if you have one company with no competitors, that is the pluperfect risk free investment. A duopoly is slightly more risky but not much. Those are the kinds of companies Warren Buffet invests in.

Yet such marketplace would be terrible for America, because it is anti-consumer, anti-innovation, and doesn't foster new jobs over the long run. Moreover, companies that successfully lower costs for operational support, customer support, telemarketing or billing services by shifting such operations to entities offshore in places like India, the Philippines or elsewhere might get kudos from investors for increasing profitability but receiving standing boos from high tech workers.

According to Forester Research, over the next 15 years 3.3 million U.S. service jobs and \$136 billion in wages will move offshore, and the information technology sector will lead the initial overseas exodus. When such firms post lower costs and trumpet their profits to Wall Street, does that really constitute a healthy marketplace? Can we really herald an economic recovery if it comes without new jobs?

A jobless recovery, Mr. Chairman, is like jumbo shrimp or Chevy Chase nightlife. There is no such thing, you know.

so the challenge for telecommunications policymakers for many years has been to reform telecommunications statutes and rules in a way that substitutes a sound competitive policy framework consistent with the public interest for hitherto monopoly provided services.

I believe a competition based policy is preferable, because it maximizes consumer choice, job creation, technological innovation, service quality, and price reductions.

In addition, I contend that the economic interests of the United States are most advanced in the global marketplace by fully establishing competition in our domestic telecommunications markets.

We still have progress to make on this front, but I remain hopeful that sooner, rather than later, the Federal Communications Commission will surely see that, without fleet-footed, up and coming competitors with a legal right to access their customers in the marketplace, we will have no marketplace insurance that the large corporate owners of the wires will not grow complacent, that they are not again permitted to sit on innovation, keeping it on the shelves, and that they are forced by competitive paranoia to invest and upgrade.

This is an important lesson for those who don't have a long history in dealing with monopolies from a policy standpoint to appreciate. That is because, when our telecommunications laws were written, our incumbent telecommunications companies were not exactly mobile. They were in a 100-year-old monopoly induced technological stasis.

When our telecommunications laws were updated, however, the incumbents were forced to become mobile, to move to deploy new equipment, to move into new markets, and to move into new technology.

Policy makers were successful in the sense that, when our new telecommunications laws were made, these companies were forced to become mobile, and we saw broadband go from zero customers in 1996 to over 80 percent of all Americans having access to it, past their front door today. That is an incredible public policy success story.

We must ensure that we don't see any further backsliding from our policy preference for the types of vigorous competition that will keep the companies and market sectors moving. Mr. Chairman, I thank you for holding this hearing, and I look forward to hearing the witnesses.

Mr. UPTON. Thank you. Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. Obviously, when the Telecom Act was written, we were still in what was known as the analog world, and now we have moved into the digital world.

As the co-chairman of the House E-911 caucus, along with our colleague, Anna Eshoo, on the other side with Senator Clinton and Senator Burns, we have been addressing enhanced 911 issues across the country. Voice over internet protocol is the new concern, for good and for bad.

I think that we have the—Chairman Powell has recognized this in his statements, and there are many, many beneficial aspects that voice IP can bring to the enhanced 911 world. Since voice over internet is digital computing application, it can do more than just identify the location of the caller. It could also help notify an ambulance. It could notify a doctor, firefighters or even send an alert message to a family member.

Chairman Powell has done an excellent job in forging cooperation between voice over internet providers and the National Emergency Number Association, known as NENA. He has also made E-911 a top priority at the Solution Summit on Voice over Internet, which are scheduled for the first and second quarter of this year.

So I am excited about the opportunities, and this is actually a hearing to listen to our witnesses, and I hope to learn from them as we continue to move this debate forward. I yield back my time, Mr. Chairman.

Mr. UPTON. Thank you. Mr. Dingell.

Mr. DINGELL. Mr. Chairman, thank you for putting together this very important hearing.

As I reviewed the testimony of the witnesses before us, three thoughts immediately came to mind. First, the communications marketplace has undergone truly amazing changes during the past several years. Second, the vast array of new products and services has tremendously benefited America's consumers, as has the continuing fall in prices for many basic telecommunication services. Finally, and this is particularly relevant to the work of this committee, there is virtually no correlation between the regulations that presently govern the communications marketplace and the networks and services that comprise this market today.

Despite all the advances in technology and, in particular, the digitization of modern communications networks, the industry is still governed by laws that were passed before the emergence of the internet, some even before the introduction of color television.

Of the two major titles of the Communications Act that govern the communications marketplace, the first was written many years ago to regulate the offering of switched analog service over copper wiring. The second was written nearly as many years ago to regulate the offering of an analog one-way video service over coaxial cable.

As we now all know too well, however, the analog world contemplated by the Communications Act no longer exists. Instead, the marketplace now features a truly impressive array of services offered over networks that were barely on the drawing board when we passed the 1996 Act: fiber to the home, WiFi, EVDO, just to name a few.

What is even more amazing, in many cases today's digital networks are still governed by the old law. In contrast with the old networks that were all designed specifically to offer one particular service, such as analog voice, today's digital networks have no such

limitations. Voice, video or data, it simply doesn't matter. In the new digital world, bits are bits, and the only limits on a network's ability are bandwidth and software.

Mr. Chairman, despite what seems obvious, many in Congress do not seem to grasp these simple facts.

Rather than grasp the exciting possibilities of new technologies, we choose to perpetuate the dying business models of certain politically entrenched companies. Rather than reward capital investment in new networks, we reward those companies, who shall go nameless, who feast like parasites off the hard work and the investment of others.

I remain hopeful that the Congress will soon change course and fundamentally overhaul the law to reflect the advances in modern communications marketplaces. I am encouraged by the recent comments from Senator Stevens that he will examine the Communications Act during the next Congress, and I intend to push this committee to undertake a similar endeavor.

Such changes are essential if we are to inspire new investments in our networks, create jobs, and rightfully reward these companies who are willing to risk their own capital.

In the interim, Mr. Chairman, I recognize the FCC may soon commence a proceeding on the regulation of one of the new services we have rolled out in the marketplace, voice over internet protocol or VoIP telephone service. As the FCC moves forward on this proceeding, there are a number of economic and social implications that must be considered, most important of which are universal service, law enforcement, and 911 services.

Based on recent news reports, I am concerned that the chairman of the FCC is not sufficiently aware of these issues. I caution the FCC to step back from its apparent rush to reclassify this service as a so called Title I Information Service. It may be far wiser for the FCC to regulate this service under Title II, which was written to apply to voice service, and then to forbear where appropriate.

I look forward to hearing from today's witnesses, Mr. Chairman, and to the continuing debate over the many telecommunications issues before us. These are questions that we must address. Thank you.

Mr. UPTON. Thank you very much. Mr. Whitfield.

Mr. WHITFIELD. Thank you, Mr. Chairman. I will waive.

Mr. UPTON. Mr. Towns.

Mr. TOWNS. Thank you, Mr. Chairman. Let me begin by thanking you for holding this hearing.

The landscape of the telecommunication industry is constantly changing. This makes it very challenging as legislators to create a regulatory environment that protects consumers, encourages investment, and fosters competition and innovation.

What may seem like sound regulatory policy at the time it is created can soon become outdated as new technologies are developed, that no one thought of at the time. So we must continue to monitor the market to ensure that regulations are appropriate or if changes are needed.

I look forward to hearing the witnesses to get a better sense of where the market is and where the market is headed, so we can

do our best to promote regulatory structure to help consumers and ensure fair competition.

One thing we do know, there is competition and choice for most consumers in the telecommunications industry. Most Americans have multiple telecommunication providers to choose from, and there is continued growing competition among telecommunication technologies.

A good example for this is that the number of wireless phone lines now outnumber the number wired consumer phone lines. However, as new technologies become available and new choices emerge, we still have to be careful to protect those consumers who may not be able to take advantage of these choices.

Right now, we are starting to see the growth of voice over internet protocol. It is estimated that one company using this technology has about 92,000 customers and is adding 1,000 consumers a month. As everyone here knows, it is projected that many other companies will be offering this service real soon. However, because this service requires the use of broadband, not all consumers will be moving to this option, even down the road.

In my district where many constituents still don't have a dial-up internet connection, let alone broadband access, voice over internet protocol, it is not an option for the foreseeable future. So I am concerned about what happens to regular local phone service for these consumers if the high paying, profitable customers migrate to voice over internet protocol.

I am pleased that some companies considering voice over internet protocol recognize that we must balance the need to promote the technology with the need to protect certain consumers. The question is, where is that balance? I am hopeful today's witnesses might help bring some clarity to this issue.

Mr. Chairman, on that note I yield back, and thank you again for holding this hearing. I think it is very timely.

Mr. UPTON. Thank you. Mr. Davis.

Mr. DAVIS. I will reserve my time.

Mr. UPTON. Thank you. Ms. McCarthy.

Ms. MCCARTHY. I will also reserve my time, Mr. Chairman.

Mr. UPTON. Thank you very much. Mr. Whitfield, you don't care to move forward either, right, with an opening statement? Reserve time. Note that those members who reserve their time get an extra 3 minutes for their questions. Thank you very much.

[Additional statements submitted for the record follow:]

PREPARED STATEMENT OF HON. PAUL E. GILLMOR, A REPRESENTATIVE IN CONGRESS
FROM THE STATE OF OHIO

Thank you Mr. Chairman for this opportunity, not only to gauge the state of competition in the communications sector, but to lay the groundwork for addressing the insurgence of new technologies under current telecommunications law.

With the enactment of the Telecommunications Act of 1996, we were certainly not as dependent on email or our cell phones when conducting business, and of course there wasn't a blackberry in sight. With the recent explosion in email, wireless, broadband, and soon, voice over Internet Protocol (VOIP) services, yesterday's advanced services such as Internet dial-up and land-lines are losing steam.

I should also point out, that while telecommunications industry investment remains weak, consumers have an array of new services to choose from, reaching farther out to serve rural areas like my Ohio district. As we delve further into this important issue, we must again, provide a communications environment conducive

to new investment, manufacturing, competition, and lower prices for our constituents.

I welcome the well-balanced panel of research analysts and look forward to your testimony. Again, I thank the Chairman and yield back the remainder of my time.

PREPARED STATEMENT OF HON. BARBARA CUBIN, A REPRESENTATIVE IN CONGRESS
FROM THE STATE OF WYOMING

Thank you, Mr. Chairman.

I would like to welcome our distinguished panel. I thank you all for joining us today and I look forward to hearing your testimony. I would also like to thank the distinguished Chairman for calling this hearing, because part of my obligation as a Member of Congress is reviewing the laws and making certain they are still serving their purpose. And I can tell you that just by looking around and seeing the number of mobile electronic devices in this hearing room, that we have come a long way from where we were when the 1996 Telecommunications Act was written. In fact, it's been a little like Moore's Law. In 1965, Gordon Moore, co-founder of Intel, predicted that the number of transistors on a microprocessor would double approximately every 18 months. Well, that was in 1965 and he's pretty much hit the bull's eye.

In the 1996 Act, Congress established a framework to radically reform telecommunications and create facilities-based telephone competition. One that opened up an incumbent's telco network to competitors. This led to a dizzying array of changes for companies, and choices for consumers. Now, in 2004, a quick look at the landscape would show explosive growth in the number of broadband connections, wireless users, and other innovative products and services. Companies are now using phone lines and cable connections for services that were scarcely imagined a decade ago, but like Moore's law, seemed to have doubled every 18 months.

I'm sure everyone remembers back to 1994, before the advent of Windows 95. Using a 28.8 modem to dial-up to a painfully slow Internet, where few could afford the cost to install a T-1 connection to have faster service, and that www used to stand for "world wide WAIT." Now with the deployment of broadband, we can not only surf the Internet faster, but we are also on the verge of a new and exciting form of competition: intermodal.

Instead of choosing between rival phone companies for service, or cable and satellite, or wireless, a consumer may soon select the type of connection she wants that will provide voice, data and video programming—all in one. This is competition in the truest sense of the word and a fascinating development. Instead of the heavy regulatory burden of network sharing mandates and allegations from both sides about the fairness of the regulated UNE-P rate, there is now true incentive for companies who innovate and invest capital into their systems without being forced to subsidize the competition. I guess that's why Voice over Internet Protocol (VOIP) is such a hot issue this year.

As always, however, I am concerned that these innovations could again leave rural America in the digital dust. That's why I will be monitoring these developments closely to ensure that folks smart enough to live in Wyoming today will not be forced to use 20th Century technology.

Thank you Mr. Chairman, I yield back the balance of my time.

PREPARED STATEMENT OF HON. MARY BONO, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF CALIFORNIA

Thank you for holding this timely hearing. The telecommunications industry has changed significantly since the passage of the 1996 Act, and Congress needs to reexamine the Act and decide how it should be applied to new technologies.

When the 1996 Act was passed, broadband was not a part of the debate. While there was some talk of advanced services, and the Internet was mentioned, it was clearly not the focus of the Act. The main goal of the 1996 Act was to bring competition into the local and long distance telephone markets. On that point, the Act has been successful.

Another goal of the Act—deregulation—has not happened for much of the telecommunications industry. So, what happens now? With technology such as VoIP, is it time to step back from regulation? What about wireless substitution? Wireless services are available and affordable throughout the country. Does that mean that the local exchange should be deregulated?

What about broadband? Broadband is an example where regulation has been turned on its head. The cable industry controls about two-thirds of the U.S.

broadband market, and is unregulated. Telephone-company broadband, known as DSL, has about a one-third market share and is heavily regulated. This makes little sense.

I want to hear what our financial experts have to say about the effect of regulation on investment in telecommunications, job creation, and the economy in general. What will happen if the FCC finally deregulates broadband? What will happen if the local exchange is deregulated? What will this mean to the economy and investment?

Thank you, Mr. Chairman, and I yield back the remainder of my time.

PREPARED STATEMENT OF HON. W.J. "BILLY" TAUZIN, CHAIRMAN, COMMITTEE ON
ENERGY AND COMMERCE

Mr. Chairman, thank you for calling this hearing today. It is critical for this subcommittee to begin to examine the state of competition in the communications industry. Competition is thriving, but the manner in which competition is occurring is a lot different from the manner in which the Telecommunications Act of 1996 assumed competition would occur.

I am delighted that we are finally beginning to witness true facilities-based competition. This competition has taken the form of inter-modal competition from different technological platforms.

Wireless carriers are on a course to exceed the number of subscribers that wireline companies possess. And wireless is competing with wireline services on several fronts. First, for several years, wireless plans have included free long-distance calling, which has taken minutes away from traditional long-distance carriers. Second, an increasing number of wireless subscribers are "cutting the cord," abandoning their wireline service completely. This trend is being accelerated by wireline-to-wireless local number portability rules. Third, wireless companies are beginning to deploy wireless broadband services that compete directly with DSL and high-speed cable-modem services.

Cable companies also provide vigorous competition in the communications marketplace. Cable companies dominate the broadband market by a margin of almost two-to-one. Cable companies have more than 3 million telephone customers, and the advent of Voice-over-Internet-Protocol (VOIP) services will keep that number rising.

And VOIP services will become an important source of competition from companies other than cable companies. Vonage just reached the 100,000-customer mark. Thirteen months ago, Vonage had only 7,500 customers. And the continued increase in broadband subscribership will just increase the number of households that can access Vonage-type services.

Competition therefore is thriving. But the type of competition we are witnessing calls many of the assumptions underlying the Telecommunications Act into question. If competition can emanate so readily from these different inter-modal sources, why does any company need to be subject to common carrier-type regulations? The wireless industry and cable companies, in terms of their deployment of broadband services, are great examples of what happens when Congress and regulators permit new services to flourish without subjecting them to onerous regulations. Congress needs to think about revisiting the 1996 Act and applying the lessons we learned with wireless and cable-broadband to the entire communications sector. In the face of competition from multiple platforms, what other direction could we possibly take?

PREPARED STATEMENT OF HON. ELIOT ENGEL, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF NEW YORK

Mr. Chairman—I think it fair to start by asking—does the telephone industry look anything like we thought it would when we passed the 1996 Act?

We thought we were passing one of the biggest reforms in Telecommunications law ever. In some ways we were and in other ways—the 1996 was already old technology. The fact is, the 1996 Act's sections on the Telephone industry were written for an analog world—but today's its all bits and bytes, ones and zeroes.

Even more amazing is the variations in methods for communicating are occurring. We realized in 1996 that the cellular telephone industry would be taking off.

But, did anyone here think that cell phones with digital cameras in them would be one of the hottest products?

Did we think that a large number of our own staffers would forgo having a wireline home phone in favor of just a cell phone?

We certainly didn't foresee being able to plop down at Starbucks with a laptop and surf the Internet at speeds much higher than 56k!

At least the Subcommittee's title has been changed to recognize this new world. We now are on the verge of radically changing how voice telecommunications are handled in our country and our world. I am beginning to think we need to change our laws as well. What those changes will look like are important to provide clarity and surety to this industry and its investors.

To be successful as legislators and thus allow the industry to grow and thrive, we must do our best to provide a level playing field. We must ensure that if we do have regulations, they apply equally to all participants and do little to get in the way of these industries developing new and better products.

Now, quite frankly, even a year ago, I am not sure I had really ever heard the phrase "Voice over IP"—I did know some people were using the Internet to make voice calls, but I didn't realize how quickly this technology was developing.

I have reviewed a tutorial on VoIP done by the International Engineering Consortium—and it is quite good. I am greatly impressed at how companies are using their intranets to place long distance calls—often international calls and, in so doing, bypassing long distance and international charges.

I also have become aware that as fast moving as this technology is, it is not quite ready for "prime time."

I would like to read a section from the International Engineering Consortium's paper, which states:

The ultimate objective of Internet telephone is, of course, reliable, high-quality voice service, the kind that users expect from the public switched telephone network. At the moment, however, that level of reliability and sound quality is not available on the Internet, primarily because of bandwidth limitations that lead to packet loss. In voice communications, packet loss shows up in the form of gaps or periods of silence in the conversation, leading to a clipped-speech effect that is unsatisfactory for most users and unacceptable in business communications.

I tend to think of this in terms of talking with my children. More specifically, I don't want my son to be able to use the excuse that he didn't hear me tell him to do his homework and have that be true!

I do want to be clear that regardless of what regulatory scheme develops for VoIP, I believe that we must move quickly to ensure that CALEA applies and also that these services are handicapped accessible.

I yield back.

Mr. UPTON. Well, we are delighted to have the four witnesses that we have this afternoon. We are joined by Mr. Michael Balhoff. Is that correct? Did I say that right? Managing Director of the Telecommunications Group for Legg Mason; Mr. Frank Louthan, VP of Equity Research, Raymond James Financial, Inc.; Mr. Adam Quinton, Managing Director and First Vice President, Co-Head of Global Telecom Services Research for Merrill Lynch; and Mr. Ned Zachar, Founding Partner of Weisel Partners, Director of Telecom Services Research from New York.

Gentlemen, I appreciate very much that you provided your testimony last—at least, I was able to look at it last night. It is made part of the record in its entirety, and I would also note that I am going to ask unanimous consent that those members that are not here wishing to make an opening statement, their statements will appear as part of the record as well. But your statements are part of the record.

We would like you to take 5 minutes each to summarize your remarks, and at that point we will go into questions from members of the panel.

Mr. Balhoff, we will begin with you.

STATEMENTS OF MICHAEL J. BALHOFF, MANAGING DIRECTOR, TELECOMMUNICATIONS GROUP, LEGG MASON INC.; FRANK LOUTHAN, VICE PRESIDENT, EQUITY RESEARCH, RAYMOND JAMES FINANCIAL, INC.; ADAM QUINTON, MANAGING DIRECTOR & FIRST VICE PRESIDENT, CO-HEAD OF GLOBAL TELECOM SERVICES RESEARCH, MERRILL LYNCH & CO., INC.; AND NED P. ZACHAR, CFA, FOUNDING PARTNER, WEISEL PARTNERS, DIRECTOR OF TELECOM SERVICES RESEARCH, LEVER HOUSE

Mr. BALHOFF. Thank you very much. Chairman Upton, Ranking Member Markey, members of the subcommittee, good afternoon, and thank you for the opportunity to address you concerning the state of telecom competition.

I am Michael Balhoff. I am a resident of Maryland. I head Telecom Equity Research at Legg Mason. I cover equities in the local exchange area. So that is my area of expertise, plus rural telephone companies, which have been a particular area of focus.

I am honored to present to the subcommittee on issues that I consider to be very important and, obviously, have been summarized well by those of you who clearly understand the issues that are there, that have changed so significantly since 1996.

I believe that the insight that you have previously articulated in your invitation to me and to those who are part of this panel is correct, that advances in technology have spurred significant intermodal competition and that the intensity of that competition is likely to accelerate.

I have five basic points that I have detailed in the fuller testimony that I supplied several days ago to the subcommittee.

First, I believe that competitive activity is very significant in the enterprise or the business marketplace. The recent FCC data that pertained to last June 2003 indicated that CLECs had penetrated on average 23 percent of the U.S. business lines, and it is my belief that that number is significantly higher, possibly above 40 percent in certain denser business marketplaces.

In the residential market, it is a bit different. I believe most investors, or the ones that I talk to at least, know that there has been relatively little investment by the so called competitors, and most of those investors believe that copper based competitors are likely to fade when regulation no longer supports the deep discounting that has been put in place by the regulators.

The reason is that the copper based telephony market is not naturally as attractive for a telephony-only competitor, and the market may not in fact be able to sustain multiple asset based telephony-only competitors.

It appears that we have a system in effect from a financial point of view in which there is disintermediation of the investment of the LEC shareholders, at least in the current regime, and to at least some of the competitors and—this is important—without achieving the concomitant public policy goal of longer term competitive activity. However, not all is dire.

My third point is that, while competition is not occurring in the regulatory sponsored system that we have put in place, at least for the residential marketplace, I believe that competition is occurring

and is likely to accelerate in the intermodal form in a residential market.

It is already doing that, as has been noted by some of you, through wireless high speed data services and cable telephony, and the statistics are relatively clear that, while the local exchange telephone companies in the reports that they issued last week were indicating that their retail residential lines were falling off by a rate of 7 to 8 percent, very significantly, the reality is that we are seeing significant new growth on the side of the wireless phones.

So we have 157 million wireless phones against 185 million wire line phones. We are adding about 4 million wireless subscribers on a quarterly basis, and well over 2 million high speed customers, both DSL and cable modem customers, on a quarterly basis, all at the same time that we are seeing the wire line phones contract by about 2 million quarterly. So there is a significant migration that is going on that is clearly intermodal.

At this point circuit switched cable telephony is relative nascent at 3 million subscribers and, as I indicate in my testimony, I don't think that cable telephony in the circuit switch sense is going to be that significant. It now accounts for about 2 percent of the switched access base.

My fourth point is that my conviction is that investors expect that the real residential voice competition is about to come, and it is about to come through voice over internet protocol, which we expect to have a transforming effect on the telecom marketplace, and very rapidly.

Notably, the statistics from the cable operators such as Time Warner Cable indicate that the penetration rates of Voice over IP is likely to reach 5 percent or even higher in the first year that the service is provided, and that is based on the results from the test market in Portland, Maine.

It appears that within 2 years we could see residential competitive statistics that bypass the numbers that have been supplied to us by the regulators or the regulatory induced UNE and UNE-P regime for the residential markets.

My fifth point is somewhat stronger, and this is my final point. That is that some investors believe that there is risk that we actually could be returning to a monopoly system, and the monopoly system, counterintuitively, is actually the cable plant.

The reason is that the cable plant is better suited to the high speed types of services that consumers are looking for, and Voice over IP gives them a significant advantage. The issue becomes even more pointed if the LECs, in my opinion, do not invest, and most of them are wrestling with these issues.

No. 1, they are saying to themselves that the return on the investment for this very expensive investment—we are not sure that it is there. So different ones of the LECs feel this more strongly, but virtually all of them are uncertain.

Second, they consider the regulatory issues that are out there have created an uneven playing field with respect to investment, and the concern on the part of the LECs is that they are going to have to discount or at least their network to competitors and, therefore, the return on investment will not be commensurate with what they put into it.

Finally, almost certainly, the LECs are dealing with a situation in which they are going to be vulnerable, because it is going to take time to build that network. I am not taking sides, and I don't believe any of us should, but the commentary that Mr. Markey and various others have offered is that we are in an environment where we want more rather than lesser competition.

So I think it is going to be extremely important for this committee and for the Members of Congress to look at how investment is truly incented and we do not impair any of the asset based competitors that are out there.

I thank you for the opportunity to present to you, and I welcome your questions.

[The prepared statement of Michael J. Balhoff follows:]

PREPARED STATEMENT OF MICHAEL J. BALHOFF, CFA, LEGG MASON WOOD WALKER, INC.

Chairman Upton, Ranking Member Markey, members of the subcommittee, good afternoon and thank you for the opportunity to address you concerning the state of telecommunications competition and the growth in intermodal communications services. Let me state at the outset that my testimony today represents my opinion and does not necessarily reflect the views of Legg Mason or the other telecommunications analysts at our firm.

FOCUS OF TESTIMONY ON STATE OF COMPETITION IN DOMESTIC TELECOMMUNICATIONS

I am honored to present to the Subcommittee on Telecommunications and the Internet about the developments related to competition in the communications industry. My understanding is that you wish to better discern how much the voice and data markets in the United States have evolved over the last several years and how much they are likely to continue to change in the foreseeable future.

I believe that the insight you have previously articulated in your invitation to me is correct—that advances in technology have spurred significant intermodal competition and that the intensity of competition is likely more widespread than many observers realize. I will state in my testimony that...

I believe competitive activity is significant in the business community;

Investors believe, in my opinion, that the current deep discounting in the residential market has created competitive statistics that are higher than most investors are willing to believe, and fund managers are generally unwilling to commit long-term capital to a system that they perceive as often based on regulatory arbitrage;

I believe that competition, however, is occurring in intermodal form in the residential market through wireless, high-speed data services, and cable telephony;

My conviction is that investors expect that the voice services provided by cable operators based on Internet Protocol will have a transforming effect on the telecommunications market within a few brief years; and

The current risk is that we eventually could be returning to a monopoly system owned by the cable operators if the local exchange carriers (LECs) are unable or unwilling to invest in the longer-term network because: (1) the expense of the investment in high-speed network is too high to generate a satisfactory return, (2) there is too much uncertainty or fear about rules requiring them to share their investment with competitors, or (3) the time required in the investment will be too extended.

In support of my views, I will briefly summarize publicly available data on: (1) ILEC (incumbent local exchange carrier) and CLEC (competitive local exchange carrier) voice marketshare for business and residential, (2) wireless service as a substitute for the local exchange service, (3) broadband market growth and the unique factors affecting the competitive landscape of cable-modem services and digital subscriber line services, and (4) cable companies' progress in capturing voice telephony market share based on circuit-switched and voice over Internet Protocol (VoIP) technologies.

LOCAL EXCHANGE CARRIER MARKET SHARE

One of the key goals of the Telecom Act of 1996 was the introduction of competition in the urban local exchange market. Most of the statistics from the FCC and the investment community verify that this goal has, in part, been achieved and that

a significant number of customers are served by alternative local exchange service providers over the traditional telephony network, notably in the business marketplace. The FCC, the state regulators, and the courts have accomplished much of this task by setting myriad rules and clarifications for leasing the incumbent's network elements, incenting significant new investment by competitors, sifting through controversies related to arcane subjects such as collocations, hot-cuts, cost models and the long-distance Section 271 process. We have far more insight today into the legalities and technologies of communications than those policymakers had in the mid-to-late 1990s, but the end result is that they made possible real competitive growth. Illustrating the general trend toward competition, the most recent FCC data suggest that total CLEC market share has increased to 15% in June 2003 from 4% in December 1999. Table 1 summarizes the data, with the statistics representing that the incumbent carriers' share of the total lines has slipped in the same three-and-a-half-year period to 85% from 96%.

Table 1: FCC Market Share Data

| | ILEC Market Share | | | CLEC Market Share | | |
|-------------------|--------------------|----------------|-----------|--------------------|----------------|-----------|
| | Total Res/Sm. Bus. | Total Business | Total LEC | Total Res/Sm. Bus. | Total Business | Total LEC |
| December-99 | 97.6% | 89.6% | 95.7% | 2.4% | 10.4% | 4.3% |
| June-00 | 96.8% | 84.9% | 94.0% | 3.2% | 15.1% | 6.0% |
| December-00 | 95.4% | 82.5% | 92.3% | 4.6% | 17.5% | 7.7% |
| June-01 | 94.5% | 80.9% | 91.0% | 5.5% | 19.1% | 9.0% |
| December-01 | 93.4% | 79.2% | 89.7% | 6.6% | 20.8% | 10.3% |
| June-02 | 92.2% | 77.5% | 88.6% | 7.8% | 22.5% | 11.4% |
| December-02 | 89.7% | 77.7% | 86.8% | 10.3% | 22.3% | 13.2% |
| June-03 | 88.0% | 76.8% | 85.3% | 12.0% | 23.2% | 14.7% |

Source: FCC data; Legg Mason Wood Walker, Inc.

I believe that the competitive data are clear that the business market share shift has been dramatic. The FCC surveys state that CLECs penetrated, on average, 23% of the reported U.S. business lines by mid-2003. In certain denser business centers, the penetration of business lines appears to be above 40%. In short, my view is that, in the wake of the Act, competitors have entered a financially attractive market to target those customers that could generate reasonable profits in high-density regions. The result is that businesses now have a variety of asset-based competitors from which to choose.

My view of the residential market is different, and I believe that the FCC data lead to more suspect conclusions. The residential market share shift occurred later than did the business shift, apparently for several reasons. First, residential rates have been maintained at relatively low levels and were even subsidized in some regions as part of public policy since the early part of the last century. Second, the costs associated with providing residential services are high, meaning that the profit spread is likely modest at best, which is why we have seen little investment on the part of copper-based competitors. Third, the usage volumes and mix of services are generally unattractive for residential competitors, especially compared with services provided to businesses. And, fourth, the investment necessary to provide ancillary services—video, high-speed data, etc.—is prohibitive unless the communications provider can offer, and have a high probability of retaining, a much fuller array of services. *More simply stated, the residential market is not naturally as attractive for a telephony-only competitor, and the market may not, in fact, be able to sustain multiple asset-based telephony-only competitors.*

Predictably, some federal and state regulators have been unwilling to accept the tenet that competition is not as well-suited to the residences of the American public. Recognizing that the task they faced was complex and the goals worthy, regulators therefore chose to intervene, using a model that was similar to the one employed in the successful breakup of the long-distance monopoly market in the 1980s. Based on that model, state and federal regulators have required the incumbent to lease its network at deep discounts, which were far more complex in their formulation than the long-distance intervention in the 1980s. Sometimes the rates were set at very low levels and at other times they were fixed somewhat higher to incent competitive investment. In general, the TELRIC (total element long-run incremental cost) pricing model—using marginal costs analyses—assumed that, when the competitors were able to gain enough scale, they would build a newer, more modern stand-alone network. The goal was, like that of the simpler long-distance industry

in the 1980s, the nurturing of real businesses, characterized by real assets and profit margins in the form of a sustainable business model.

Unfortunately, there appears to be virtually no such investment occurring on the part of copper-based competitors in the residential market because the premise was flawed. The miscalculation arose because investment costs and risk are very high in the residential local exchange business, especially compared with the relatively less expensive assets required to serve the 1980s' long-distance market, and the profit margins on LEC businesses are thinner and are probably not sufficient to sustain the higher levels of investment. Accordingly, today we have more "competitors" offering residential local exchange services based on regulatory approaches that, however well-intentioned, have not spurred viable long-term enterprises." In fairness, there were some competitors that tried to invest, but some have admitted that they were disadvantaged by a system in which TELRIC competitors had a more attractive short-term business proposition with virtually no capital costs and lesser competitive risk. In sum, we committed to a system in which there is disintermediation of the investment of the LEC shareholders into at least the some of the *competitors without achieving the concomitant public policy goal of longer-term competitive activity*. Worse, we may have a system that is draining cash flows from viable competitors—the LECs—precisely at the moment when they need to invest in order to withstand the next stages of formidable intermodal competitive activity from attractive wireless and cable-based services.

My view, then, is that we have been through a period of illusory business propositions that have burst badly, and we may have new illusions, including the less-than-convincing policy that the telephony-only POTS-like model can be competitive for residential customers. *More directly stated, in the residential market, I believe that the only major facilities-based competitors in the U.S. are the wireless carriers and the cable operators, whose plant already exists or is in need of some relatively modest upgrade.* Thus, the statistics tabulated about residential competition are, in the minds of investors, not representative of the underlying reality.

I believe that competition is, in fact, occurring, but it is through a fundamental intermodal shift, transpiring with the advent of new technologies and marketing.

WIRELESS AS A SUBSTITUTE FOR WIRELINE SERVICE

Clearly, wireless is an important source of competition. In fact, investors and analysts ask about wireless substitution on virtually every investor communications-related conference call. As analysts, we track the falling numbers of LEC access lines that can be fully explained only by reality of competitive choice, including wireless. We analyze the innovative types of services that appear increasingly attractive because they offer new features, including mobility, text messaging, image generation, etc. My observation is that policymakers, understandably, work within legacy constructs—including statutes and case law—that define wireless and other intermodal services as different from traditional telephony, and some policymakers have been slow to embrace intermodal services as competitors. At the same time, I believe firmly that those newer carriers, based on proven alternative technologies, are formidable competitors *precisely because their products are different from copper-wired services*.

Let us take a brief look at some statistics related to wireless. I note that, while it is clear that there is substitution whereby wireless-only customers may be 8% of the total consumer market today, it is admittedly difficult to calculate precise figures. To provide some insight into the data, however, we can examine recent reports of the Bell companies. Each of the carriers supplies information in formats different from the others, and the data are often different from the information supplied by that very carrier in the previous quarter, making analysis a bit tricky. In the most recent quarter reported last week, for example, SBC supplied interesting statistics to illustrate the company's improving performance in terms of line loss in certain of its service regions. In Table 2, the data are totaled and analyzed in a way different from SBC's presentation to investors, highlighting that the company was not doing quite as well as the initial investor slides depicted. While the company was posting lesser line losses in sequential quarters in terms of primary lines and second (also called "additional") lines, further analysis revealed that the net losses are actually growing in a way that cannot be explained solely by regulatory-imposed discounting rules. Using the company's data on residential lines—primary and additional—and subtracting them from the gains in wholesale lines, which are unbundled connections leased to competitors, the summation suggests that the total of retail and wholesale residential lines is contracting more rapidly in the last two quarters of 2003. I note that the wholesale data used in this analysis includes *both residential and business lines*, but I believe that the residential wholesale lines are

growing at least as fast as the business lines, and that the conclusion is still the same. In the case of BellSouth, the company reports simply that it lost 7.3% of its retail lines year-over-year and that the net loss of retail lines, offset by wholesale gains, was 3.1%. BellSouth's absolute losses in residential lines—combined retail less wholesale—in the fourth quarter were 134,000, slightly worse than the 130,000 lost in the third quarter. Verizon does not supply the data necessary to perform a similar calculation. *What is the explanation flowing from these statistics? Substitution continues unabated.*

Looking carefully at the analysis, however, reveals something more about wireless. First, the total residential loss can be explained, in part, by the shifting to cable modems or DSL, but data substitution is generally a second-line phenomenon, and the second-line loss is slowing and is well below the total loss. It does not seem that the loss is due to a more severe economic downturn, as the economy appears to be improving, nor does the loss appear to be due to the shift to cable telephony, as those forces are still relatively nascent. *It appears to me that the higher losses are due to an acceleration in the movement toward wireless services and away from wireline telephony.*

Table 2: SBC Quarterly Residential Line Loss
(in thousands)

| | 1Q03 | 2Q03 | 3Q03 | 4Q03 |
|---|-------|-------|-------|-------|
| Residential primary lines | (504) | (479) | (378) | (228) |
| Residential second lines | (236) | (229) | (229) | (170) |
| Residential total losses | (740) | (708) | (607) | (398) |
| Wholesale net adds (business + residential) | 684 | 665 | 375 | 116 |
| Net line loss (residential total + wholesale) | (56) | (43) | (232) | (282) |

Source: SBC data; Legg Mason Wood Walker, Inc.

Legg Mason has published in the past that we estimate that roughly one half the residential line loss is the result of consumers' cutting off slow circuit-switched second lines to migrate to high-speed data substitutes, and that approximately 25% of the share shift was due to consumers' substituting into wireless services. The data now suggest that the trend toward wireless is accelerating, as cellular price plans and convenience have occasioned the growth of wireless to approximately 157 million subscribers at the end of the fourth quarter compared with approximately 185 million wired telephone lines, by Legg Mason estimates.

Table 3 provides wireless customer additions by carrier for each quarter since the beginning of 2002. The key messages are that the last three quarters have been marked by solid sequential growth in additions, that the strong wireless carriers have tended to gain share, and all this is occurring at a time when the RBOCs are reporting sharp year-over-year retail residential declines. The comparisons are startling—SBC reported 8.0% retail residential losses in the final quarter of 2003 compared with 2002, while BellSouth disclosed 7.3% contraction (cited earlier), and Verizon announced only the combined wholesale and retail slippage of 3.7%, meaning that the retail loss was likely more severe. With the introduction of wireless local number portability in late November 2003—permitting a wireline customer to port its number to a wireless carrier—it seems that the regulators have moved closer to stating that they view wireless as a substitute for wireline access that was once judged to be an imposing bottleneck.

Table 3: Quarterly wireless subscriber additions
(In thousands)

| | 1Q02A | 2Q02A | 3Q02A | 4Q02A | 1Q03A | 2Q03A | 3Q03A | 4Q03E |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Verizon Wireless | 186 | 723 | 803 | 964 | 755 | 1,214 | 1,407 | 1,496 |
| Cingular Wireless | 234 | 353 | -107 | -121 | 189 | 540 | 745 | 642 |
| AT&T Wireless | 650 | 417 | 201 | 705 | 283 | 446 | 229 | 128 |
| Sprint PCS | 725 | 308 | -78 | 250 | 199 | 360 | 184 | 390 |
| Nextel | 502 | 471 | 480 | 503 | 480 | 591 | 646 | 549 |
| T-Mobile | 509 | 453 | 869 | 1,017 | 921 | 606 | 670 | 1,015 |
| | 2,806 | 2,725 | 2,168 | 3,318 | 2,827 | 3,757 | 3,881 | 4,220 |

Source: Company data; Legg Mason Wood Walker, Inc.
Figures from Verizon, AT&T Wireless and T-Mobile for 4Q03 are actual.

BROADBAND MARKET GROWTH

The growth in broadband services—primarily based on cable modems and DSL—continues to accelerate for residential and business customers. Table 4 details DSL data from the three-largest telephone companies, highlighting the quarterly increases in total lines served by the carriers and the increases in net additions each period. The increases have been gradual, but they are increases nonetheless, again over and against the RBOC line losses. In terms of the numbers of customers subscribing to DSL each quarter, the three-largest Bells report 706,000 new lines added in the fourth quarter of 2003—announced in the last week—following 661,000 in the preceding period and 508,000 in the three months before that.

Table 4: RBOC Quarterly DSL Totals and Net Adds
(in thousands)

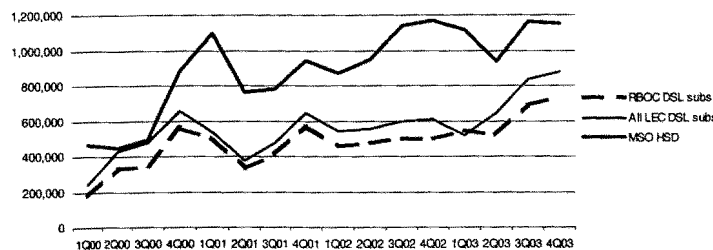
| | 1Q02 | 2Q02 | 3Q02 | 4Q02 | 1Q03 | 2Q03 | 3Q03 | 4Q03 |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Verizon DSL lines | 1,336 | 1,485 | 1,640 | 1,788 | 1,830 | 1,931 | 2,116 | 2,319 |
| Net adds | 148 | 149 | 155 | 148 | 160 | 101 | 185 | 203 |
| SBC DSL lines | 1,515 | 1,728 | 1,954 | 2,199 | 2,469 | 2,773 | 3,138 | 3,515 |
| Net adds | 183 | 213 | 226 | 245 | 270 | 304 | 365 | 377 |
| BellSouth DSL lines | 729 | 803 | 924 | 1,021 | 1,122 | 1,225 | 1,336 | 1,462 |
| Net adds | 109 | 74 | 121 | 97 | 101 | 103 | 111 | 126 |
| Total DSL lines | 3,580 | 4,016 | 4,518 | 5,008 | 5,421 | 5,929 | 6,590 | 7,296 |
| Total DSL adds | 440 | 436 | 502 | 490 | 531 | 508 | 661 | 706 |

Source: Company data; Legg Mason Wood Walker, Inc.

The cable operators have also reported high-speed data growth, with the absolute number of additions generally rising. Figure 1 illustrates the subscriber quarterly additions, based on the companies that Legg Mason follows and our estimates of the other carriers. Notably, the cable operators continue to attract more subscribers in absolute terms each quarter compared with the DSL additions by the Bell companies and the additions by all LECs.

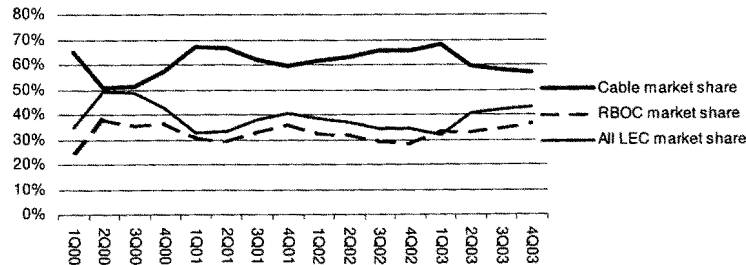
An alternative view is based on Legg Mason's estimates of the high-speed market share as illustrated in Figure 2. The graphic conveys the commanding market leadership of cable operators in this expanding communications segment. At the same time, we estimate that cable share has slipped to approximately 57% in the final quarter of 2003 from about 68% in the first quarter of 2003, with the major reason being the gradual pressure from RBOCs—much lower rates, better bundling, and more widespread availability—that appear to be focused on retaining high-speed share lest the Bells be disadvantaged when the cable operators begin offering VoIP services in 2004 and beyond. Additionally, the independent local exchange carriers have gained share, particularly in markets that are not as well served by cable operators.

Figure 1: High-speed data subscribers quarterly additions



Source: Company data; Legg Mason Wood Walker, Inc.

Figure 2: High-speed market share: cable modems and DSL



Source: Company data; Legg Mason Wood Walker, Inc.

In our consultations with investors and regulators over recent months, I have suggested that the expanding battle over high-speed data is the thunder in the distance before the most formidable storm of intermodal competition is upon us. *My view is that the Bells recognize that the true residential competition is about to break out and competitive activity, ironically, has nothing to do with what the deep discounts or other temporary constructs that regulators have employed in attempting to change what has for so long been an intractable residential marketplace.*

CABLE OPERATORS' VOICE SHARE

At present, competition from cable operators is relatively limited, as Cox and Comcast have some circuit-switched customers, but few other cable operators have invested in cable telephony. The most recent FCC competitive statistics, as of the end of June 2003, contend that there were approximately 3.0 million cable telephony lines in the United States, accounting for about 11% of CLEC lines and 2% of the total domestic switched access lines. I believe the statistics are interesting, but do not merit much study because the true intermodal cable product is already making its entrance in the form of voice over Internet Protocol.

My view that most telephony investors are profoundly concerned about VoIP competition is evidenced by the fixation on the competitive share shift generated by tiny providers such as Vonage, Net2Phone, Skype and Pulver.com. Investors follow every signal from the cable operators that are market-testing VoIP and those that have begun to roll out the Internet-based service. Among the cable operators, Cablevision and Time Warner Cable are being watched most carefully, as they are offering widespread service earlier than their peers.

The power and speed of the rapidly approaching weather system was driven home last week (January 28) when Time Warner reported on its test market in Portland, Maine. The service was begun in May 2003, a mere nine months ago, and management reports that it has captured more than 10,000 VoIP customers, which is about 23% penetration of the high-speed customer base, 9% of the company's video customers in the region, and, by Legg Mason's estimate, 5% of the homes passed in Portland. The company also reported it was beginning to offer VoIP in Kansas City, Kansas, and Raleigh, North Carolina, and expected, by the end of the first quarter, to have service in a total of six of the company's 31 systems across the country, and, by the end of 2004, to have service in virtually its entire cable footprint.

If we compare Time Warner's penetration rate to the FCC competition statistics cited at the outset, I suggest that Time Warner could be near 5% residential penetration within its first year of service, adjusting for the fact that the company's homes-passed are fewer than the residential telephony lines in the region. Notably, the FCC reports that residential plus small business penetration of CLECs is 12% as of June 2003, based significantly on the discounted rates the regulators set. It appears that, within two years, we could see the residential competitive statistics bypassed by VoIP services in a marketplace that is fundamentally driven by technology changes, and a result accomplished far more effectively than might have been expected through regulatory incentives.

I believe that the introduction of VoIP services will move residential competition to a place that legislators and regulators could not have expected realistically under the copper-based telephony model. In this new intermodal competitive landscape, consumers will be able to choose from asset-based competitors whose services are differentiated from, and more convenient than, circuit-switched telephony. Further,

the pricing for services will almost certainly, in my view, be more attractive than rates possible using legacy telephony, because of the underlying economics of Internet-based technologies.

Another sign that the intermodal forces are significant is apparent in reviewing the RBOC responses. The storm is so fearful that the RBOCs are vigorously preparing for its onset by slashing pricing for their DSL services, sharpening their marketing on bundled services, pressuring equipment vendors to develop high-speed electronics in volumes at dramatically lower prices (deployment has yet to occur except in tests), and at least generically announcing VoIP products for businesses and residential customers.

FUTURE-ORIENTED POLICY ISSUES

As I summarized at the outset, I believe that the emerging intermodal forces raise serious policy questions. Regulators and legislators will increasingly have to consider whether the incentives and constraints that they are employing are dismantling the correct bottleneck monopoly in light of the rapidly changing technologies. In fact, I believe that many of the more thoughtful policymakers recognize that backward-looking schemes are seriously limiting RBOC investment and that the limitations could have unintended consequences in causing the LECs to slow their commitments to the forward-looking wireline markets in which fiber and optical electronics are key.

I do not propose that there are simple answers to these questions, but I have written and believe firmly that competition is unfolding in an intermodal world and that the RBOCs may not be able to reshape their services rapidly enough. It is clear to me that the RBOCs are conflicted about whether their investment expenditures are too high to justify widespread deployments. They are uncertain about whether alternative investments such as fiber-to-the-curb make more economic sense, but there is too great a risk in a world in which the rules promise that competitors will not dilute that investment if, and only if, the investment is all the way to the premise. And the RBOCs appear to me to be wrestling with the reality that the rebuild will be time-consuming, raising the possible evaluation of an alternative financial model in which the RBOCs admit that their securities are inevitably declining annuities, which is to say that they cede the emerging services to better-prepared asset-based competitors as they more responsibly return cash to their shareholders. If that happens, then I believe that the new communications marketplace could be served by alternative services that may be monopoly-like because the investment required to compete is so great.

CONCLUSION

To summarize my testimony, I note that there are key points for this Subcommittee's reflection.

My simple observation as an analyst is that competition has generally worked where there are fundamental financial realities to support businesses.

In the enterprise and small business markets, competitive growth is significant, with competitive penetration over 30%.

Over and against that, in the residential market, I see a short-term competitive model that is understandably policy-oriented, but I believe that "competition" in the wireline copper-based telephony market will dissipate when the artificialities are removed within the next several years.

At the same time, it appears to me that the tenet in sponsoring this Subcommittee's discussion is correct—that competition is unfolding through intermodal services, including wireless, broadband communications such as email, and, most importantly, through the very obvious and formidable threat of VoIP.

If investors have a concern, I believe it is that they are fearful that some policymakers misunderstand the nature of how competition unfolds, and that the natural competitors in the various marketplaces are constrained because cash flows and returns on capital commitments, in the case of the RBOCs, are uncertain precisely at a time when investment is necessary to cope with intermodal competitive threats.

Thank you for the opportunity to present my views.

Mr. UPTON. Thank you very much.

Mr. Louthan.

STATEMENT OF FRANK LOUTHAN

Mr. LOUTHAN. Good afternoon. Mr. Chairman and distinguished members of the subcommittee, thank you very much for allowing

me the opportunity to discuss my views on the state of competition within the telecom industry.

My name is Frank Louthan, and I am the Senior Wire Line Analyst in the Telecommunications Group at Raymond James. The majority of my testimony will center around the current state of competition in the telecommunications industry and how it relates to regulations and investors.

I would like to focus on the convergence of service provider offerings that are blurring the lines between local, long distance, wireless and data services, and especially the ensuing intermodal competition, as I believe the regulatory community should be aware of the impact these trends will have on the industry participants, investors and consumers.

Local voice has become a commodity with IXC's and CLECs attacking the mass market, largely as UNE providers, cable operators rolling out switched and Voice over IP services, and emergence of wireless' land line and long distance substitutes, which I will touch on later.

Other factors impacting local telephone companies include a decline in second lines in favor of broadband connections and the replacement of primary and secondary lines by wireless phones.

The influx of competitors following the Telecom Act in 1996 fueled by a rising market led to a variety of telecom strategies and assets being deployed and significant competition into every corner of the market. The other less obvious result has been the erosion of the health of the industry as these competitors all seek to cover their high fixed costs with lower and lower contributions from incremental sales.

The real issue, in my opinion, gets down to the economics of the business, which I believe to be largely fixed, thus making it difficult for multiple network providers in the same market to generate positive returns. High fixed costs can create high incremental margins and significant profitability over time, although this should not necessarily be mistaken for an open invitation in every market for competitors to enter, as profits may erode quickly in the face of multiple providers.

Eroding profits, in turn, provide disincentives to investors, which I view as a negative scenario in a capital intensive industry such as telecommunications. Meanwhile, regulation has generally discouraged more investments in important areas such as the "last mile."

The investment community is largely uncomfortable with continued erosion in the fundamentals and has a general lack of comfort with the regulatory environment. With some level of competition, I believe that the incumbent providers and new entrants are kept on their toes, innovation ensues, and pricing is definitely kept at a lower level than under a monopoly regulated regime. However, the current state of the industry is generally regarded as unhealthy, as carriers are seeing their returns decline, and investors are growing less likely to participate in an industry that is perceived to be becoming irrational.

The wire line industry faces several modes of voice competition, the most high profile of which remains UNE-P followed by cable. The cable companies have had great success in deploying facilities

based broadband services, and I expect them to take a meaningful share of the voice business over time through bundles and innovation, plus they benefit from favorable regulation.

Another issue that should be considered in the fallout of increased telecom competition is the erosion of access minutes of use. This revenue stream is an implicit subsidy for many telecom providers and important to their health, not to mention the support of the telecom infrastructure covering a large portion of the U.S.

Broadening the use of cell phones as the primary vehicle for long distance calling has significantly reduced access fees and long distance revenue. I estimate the network access and long distance represent anywhere from 20 to 60 percent of total revenue for RBOCs and rural ILECs, and the network access erosion has yet another subtle impact of intermodal competition that should be addressed.

Over time, I believe 10 to 15 percent of households could disconnect their primary phone, land line phone, for a wireless phone, with acceptance of lower voice quality in exchange for lower cost being the key driver of this dynamic. Overall, I believe wireless substitution will be a secular trend that continues in the industry for sometime and which will have a larger impact on primary and secondary access lines in urban markets and a corresponding impact on long distance revenue and access revenue in rural markets.

In summation, the lines are becoming increasingly blurred in the eyes of consumers with regard to the medium with which they are receiving their telecommunications services in the residential market. Yet regulation has generally been enacted without considering the broader market for telecom services, particularly whether or not customers have some alternative form of service, regardless of the technology or device employed.

I do not believe residential or business customers suffer from a lack of choice in telecommunications services, a situation I do not see changing anytime soon. Hence, the total impact of all mediums of the competition and consumers' indifference between them should be strongly considered in the continuation and modification of telecom regulation.

Thank you for your time, and I look forward to your questions.
[The prepared statement of Frank Louthan follows:]

PREPARED STATEMENT OF FRANK LOUTHAN, SENIOR WIRELINE ANALYST,
TELECOMMUNICATIONS GROUP, RAYMOND JAMES

Mr. Chairman, and distinguished members of the subcommittee, thank you very much for allowing me the opportunity to discuss my views on the state of competition within the telecom industry. My name is Frank Louthan, and I am the senior Wireline Analyst in the Telecommunications group for Raymond James. The majority of my testimony will center around the current state of competition in the telecommunications industry and how it relates to current regulations and investors.

Convergence of services, providers, and service offerings are all blurring the lines between local voice, long distance voice, wireless, data, and video services. We see technological barriers becoming weaker and competition for these services increasing. As the RBOCs integrate their offerings with satellite providers through joint ventures, the cable operators roll out telephony services, wireless data becomes a larger mass-market offering, and other new technologies complicate matters further, we believe the regulatory community should be aware of the impact these trends will have on the industry participants, investors, and consumers.

While local voice services were historically dominated by the local Bell monopolies, these services are now experiencing a higher degree of competition from a number of sources. IXCs and CLECs are attacking the mass market largely as UNE providers, although this source of competition has higher concentrations in states with

lower UNE rates. Cable operators are increasingly rolling out switched voice services, although their mass roll-out has been somewhat limited thus far as they wait for VoIP (voice over Internet Protocol) to become more of a reality. Other factors impacting local telephone companies include a decline in second lines as consumers abandon them for a broadband connection or wireless phone, and the replacement of primary lines by wireless phones as that technology becomes a more ubiquitous service.

The overexuberance of the capital markets following the Telecom Act of 1996 created a large influx of competitors using different sets of assets to somehow capture revenue from either voice or fast-growing Internet services. The result, of course, has been significant competition at almost every corner of the industry. The other, less obvious result is the erosion of the health of the industry as these competitors all seek to cover their high fixed costs with lower and lower contributions from incremental sales. The real issue, in my opinion, gets down to the general economics of the business, which I believe to be largely fixed, thus making it difficult for multiple network providers in the same market to generate a positive return. The high fixed costs can create high incremental margins and significant profitability over time, although this should not be mistaken for an open invitation for many competitors to enter the market, as those profits erode quickly in the face of multiple providers. Eroding profits, in turn, provide disincentives to investors, which I view as a negative scenario in a capital-intensive industry such as telecommunications. We are currently in a state of industry flux that discourages spending on new assets, as the recent large investments in capital have not earned returns, thus discouraging innovation from telecom equipment providers due to pressure on pricing, revenue, and cash flow. Meanwhile regulation has done its part in discouraging investment where it can be deployed most effectively, namely the "last mile."

I believe there is more competition than necessary in the telecom industry at the present time. The investment community is largely uncomfortable with spending on new facilities due to continued erosion of industry fundamentals and a general lack of comfort with the regulatory environment. With some level of competition, I believe incumbent providers and new entrants are kept on their toes, innovation ensues, and pricing is likely to remain at a lower level than under a monopoly-regulated regime. However, the current state of the industry is not healthy, as carriers are seeing their returns decline and investors are growing less likely to participate in an industry that is perceived to be irrational.

Competition that has been most evident for local, wireline voice services to date has been UNE-P competition, which dictates rates through state regulatory commissions. Rates are set by theoretical cost models, where the incumbent and competitors (along with consumer protection agencies) bicker amongst themselves. UNE-P has flourished once prices hit a certain threshold; yet we have seen little evidence of the providers' desire to build their own facilities, as they are earning very healthy returns under the current model. We believe a resale business model makes sense in some instances, yet there are too many arbitrage opportunities in the marketplace set forth by a telecommunications market with no real market-based rates. Such a system promotes "cherry-picking" attractive customers and neglecting others, while reducing the RBOCs' incentives to develop, deploy, and sustain new services.

Meanwhile, as the RBOCs get a firmer handle on UNE-P competition, their focus has been shifting to a large degree towards cable competition, which will effectively provide real facilities based competition regardless of regulations currently in place. Currently, the RBOCs are betting their voice/data/wireless/satellite bundles can beat the cable industry's voice/data/entertainment bundles, with the ultimate winner of this clash unclear at the present time. However, the scales are currently tipped in the cable providers' favor, in our opinion, with these companies not having to deal with an out-dated regulatory model that is becoming increasingly irrelevant in the face of technological innovation.

A great example of how market-based forces can spur facilities creation is the broadband marketplace. Most consumers have at least 2 choices of facilities based broadband offerings (cable and the incumbent telecom provider), with several others that are not facilities based. We believe there is sufficient competition that has evolved for broadband services between the local cable company and the incumbent telecom provider to spur facilities creation, price competition, and innovation.

Cable has done an excellent job of deploying broadband, in the process demonstrating how market forces can be the best driver of companies bringing new and innovative services to the marketplace. I believe this is largely due to the certainty of the investment for the MSOs, as they may have been reluctant to roll out a mass broadband offering had they been required to resell it under regulatory driven rates in a similar manner to the RBOCs. Meanwhile, the RBOCs have lagged cable providers in deploying broadband and simply gaining customers, in part due to issues

with their plant, but also out of concerns over stifling regulation, be it either allowing competitors to use their facilities or simply paying more attention to their battles over voice regulation. Considering the amount of choice customers have in broadband, not to mention the nascent wireless data offerings that are further changing the game for broadband and data access, regulation of this market would simply stifle rather than promote competition over the long run, in my opinion.

When discussing the obvious technological change that is spurring real, market-based competition for voice services, VoIP (Voice over Internet Protocol) is the largest near-term driver of such forces. Once again the cable provider, with plant already deployed and an embedded customer base to market the service towards, appears to have an advantage. The cable operators have the financial resources, economic justification, and expertise to pull-off mass-market offerings that should spur competition and new services.

However, the RBOCs must deal with this market-based competition for wireline voice services in addition to devoting resources towards regulatory requirements and UNE-P debates. UNE-P providers leverage the RBOCs' networks even while the RBOCs must provide universal service and lifeline services to unprofitable customers. A large portion of incumbent service providers' revenue comes from long distance and network access revenue, which is being eroded by wireless and other forms of technological substitution. We believe consumers now view wireless long distance as free and are therefore more likely to use their wireless phone to make long distance calls. This significantly reduces both long distance revenue the incumbent can generate or at the very least originating access fees. Terminating access fees are also being reduced as consumers utilize wireless phones. We note this is a key motivator for the RBOCs to roll out any-distance bundles (in addition to matching UNE-P competitors products), as they look to replace a declining revenue source with a stable, non-usage dependant, and possibly increased revenue source. We estimate network access and long distance represents between 20% and 60% of total revenue for the RBOCs and ILECs, making this revenue source significant. We view this as another subtle impact of intramodal competition.

In addition, wireless phone and increasingly data services are becoming very competitive alternatives to wireline voice connections to the home. We believe the roughly 9.6% of the population that are single between the ages of 20 and 34 are the most likely to disconnect their wireline phone for a wireless phone (with a significant proportion of this age group having already done so). As young consumers between 15 and 19 (another 6.6% of the U.S. population) become households, we believe these households could become prime wireless substitution candidates. At the same time, we believe a portion of these consumers are likely to keep phone lines for Internet connections or simply choose not to forgo a wireline phone.

We also believe a large portion of the population that is married, currently around 62 million couples (124 million people) or around 58% of households are less likely to cut the cord. Factors such as a need for common points of contact, wireless handset and battery quality, connections to security/monitoring services, and other practical limitations of wireless phones are also expected to play a part in multiple person households retaining a wireline phone, in my opinion. I believe 10% to 15% of households could disconnect their primary phone line for a wireless phone, although the speed at which this could occur is unclear, and the advance of wireless data options, network quality, and changes in consumer preferences are expected to be the gating factors. A key change in consumer preference would include acceptance of less than "5-9's" reliability for phone coverage, which I believe is already to emerging, as evidenced by the significant numbers of consumers that already view wireless as an acceptable alternative to a landline phone.

The actual impact of wireless substitution is difficult to estimate because it is highly dependent on consumer preferences that can change over time. However, we believe age and marital status are key factors to look at when trying to predict this preference. Other factors include wireless coverage, local culture (we believe wireless substitution is more prevalent in larger cities than less densely populated areas due to better wireless coverage, a larger prevalence of wireless phones, and different conventions), customer service, and economic factors. We believe wireless substitution will be a secular trend that continues in the industry for quite some time, which will have a larger impact on second lines, long distance revenue, and access minutes of use over the near term.

In summation, the lines are becoming increasingly blurred in the eyes of the consumer toward the medium within which they are receiving their telecommunications services in the residential market. Yet regulation has generally been enacted without considering the broader market for telecom services, particularly whether or not customers have some alternative form of service, regardless of the medium. I do not believe residential or business customers suffer from a lack of choice in tele-

communications services, which is a development that will be proliferated by the quickening pace of technological innovation in the coming years. Hence, the total impact of all mediums of telecom competition and consumers' indifference between them should be strongly considered in the continuation and modification of telecom regulation.

Mr. UPTON. Thank you.
Mr. Quinton.

STATEMENT OF ADAM QUINTON

Mr. QUINTON. Good afternoon, Mr. Chairman and distinguished members of the subcommittee. Thank you for inviting me to appear before you to discuss the state of the communications market. I am truly honored to be here.

As a financial analyst, my primary role is to make stock recommendations for Merrill Lynch's investor clients. As such, my perspective on the telecom industry reflects a mix of considerations: The broader industry structure and growth outlook; the way factors such as technology change and regulation impact the way individual companies participate in the growth of the broader industry; and the capabilities and strategies of individual companies and, ultimately, the way all of that plays into the outlook for their stock prices.

The Standard & Poor's integrated telecom index, which tracks the performance of the major carriers, has fallen in each of the past 4 years. It is down 61.5 percent since the market's March 2000 peak. The broader market has declined by 27.2 percent over the same period. So as measured by the stock market, the communications market appears to be in relatively bad shape.

Observed through the lens of the consumer, we argue that things look rather different. We argue that, for the majority, the state of the telecom market looks pretty good. Prices are falling. The range of products and services, and the number of players offering those products and services is expanding, and quality is rising also.

There are a few data points that seem relevant. First, as reported by the FCC in its most recent local competition survey, competitive carriers serve 14.7 percent of access lines at the retail level, up from 4.3 percent at the end of 1999.

Second, quality of service reports filed with the FCC indicate rising quality of voice service for most all major carriers. Third, we estimate that the number of cell phone users will exceed the number of U.S. wire line access lines sometime during 2005, with cell phone users able to choose between six national wireless carriers.

Fourth, insurgent players such as Vonage have gathered much attention as they deploy VoIP. But more importantly perhaps, major cable companies have indicated they will deploy VoIP phone service to all their markets.

On the subject of broadband, the level of penetration in the U.S. has concerned policymakers. Whilst the 22 percent penetration of households here may lag the 80 percent or more we see in the market leader today, namely Korea, that deficit does not any longer reflect lack of investment by the communications industry, in my view. It seems to reflect a take-up deficit, not an availability deficit.

As to regulation, the U.S. regime is certainly complex. I do not envy Chairman Powell and his colleagues at the FCC their task of fitting today's telecom world into a framework defined by the 1996

Act. That said, the Act is clearly having an impact as the cross-entry battle between incumbent local and long distance wire line carriers heats up.

Meanwhile, the U.S. bankruptcy laws have had an impact on the state of the U.S. industry. We have dubbed "The Frankenstein Effect" the phenomenon by which several large bankrupt long distance carriers such as MCI, Global Crossing and others, have or are about to emerge from financial restructurings which leave their assets substantially intact but their debt burdens greatly reduced. This makes for robust competition in the long haul space.

A crucial measure of the health of an industry is cash-flow. Combined aggregate free cash-flow before dividends in 2001 for all of the U.S. telecom service providers covered by Merrill Lynch research was negative \$4.2 billion. We estimate that in 2003 it was positive to the tune of \$42 billion, the point here being that the industry has refocused attention on the most compelling investments that, adapted to the decline being experienced in some areas, has responded to investor pressure to better manage capital programs and balance sheets, and has reduced costs in an effort to maximize profitability even in an environment of increased competition.

Indeed, all of SBC, Bell South and AT&T have acknowledged their stronger balance sheets and healthy cash-flows, raising their dividends to equity owners by between 16 percent and 27 percent in 2003.

My conclusion is that, considered in the round, the state of competition in the U.S. telecom marketplace is mostly good. There is robust competition in many consumer and business markets between traditional providers, promoted by the 1996 Act, and there is growing intermodal facilities based competition from wireless and, increasingly, cable companies.

Prices are falling, offerings expanding, and quality generally is rising. Crucially, the major incumbent carriers are dealing with painful transitions as revenues shrink in some areas such as wire line voice and especially long distance, grow in others, noticeable wireless and broadband, and shift between players, yet at the same time are generating adequate cash to finance investments in their current infrastructure as well as new technologies. Meanwhile, technology change is enabling new competitors to enter the marketplace.

The transition of the telecom industry from a voice centric to a data centric model, underway for many years now, is still at an early stage. We have no doubt that the winners will be the consumers and businesses who use telecom services. For telecom investors, the winners in the service provider world are much harder to predict.

Thank you again for inviting me, and I will be happy, in due course, to take your questions.

[The prepared statement of Adam Quinton follows:]

PREPARED STATEMENT OF ADAM QUINTO, MERRILL LYNCH & CO

Good afternoon Mr. Chairman and distinguished members of the Subcommittee. Thank you for inviting me to appear before you to discuss the state of the communications market. I am truly honored to be here.

As a financial analyst my primary role is to make stock recommendations for Merrill Lynch's investor clients. As such my perspective on the telecom industry reflects

a mix of considerations: the broader industry structure and growth outlook, the way factors such as technology change and regulation impact the way individual companies participate in the growth of the broader industry, the capabilities and strategies of individual companies and ultimately the way all that plays into the outlook for their stock prices.

Observed through the lens of the stock market the US telecom services industry would appear to be in pretty bad shape. Many companies, large and small, have seen collapses in market value since the March 2000 peak. In addition there have been many high profile bankruptcies, some with alleged fraud. Measured in terms of the S&P integrated telecom index stock prices have declined in each of the last four years. That makes for a 63.6% decline from January 2000 to January 2004. Over the same period the broader S&P 500 index fell by only 24.3%.

As with the larger market “bubble” much time and effort has been invested in trying to identify the causes of “the problem” of which this collapse is deemed to be a manifestation. Also of course many look to identify a “solution”. Was the 1996 Telecom Act flawed? Have there been major management failings? What about the role of the FCC? By way of example the Columbia University Business School Center for Tele-Information recently conducted a major research study on “Remedies for Telecom Recovery.” However, all this deliberation presupposes there is a “problem” in the first place. Before going any further I think it makes sense to review how the market actually looks today:

- As reported by the FCC in its last local competition survey the US has 182.8MM access lines, of which 14.7% are served at a retail level by competitive carriers, up from 4.3% at end 1999. AT&T and MCI in particular are growing their bases of retail access lines served, but so too are smaller competitive carriers operating “under the radar screen” of media scrutiny such as Broadview Networks and Paetec. Meanwhile quality of service reports filed with the FCC report rising quality of voice service for most all major carriers—as measured in terms of faults per line, time to repair and so on. For example, based on data reported to the FCC and available through its ARMIS database, total trouble reports per month per 100 residential access lines has trended lower over the past several years from 2.79 trouble reports per 100 lines in 1993 to 2.57 in 1996 to 2.16 in 2002.
- The US now has 157MM cellular telephone users. Wireless calls account for, we estimate 23% of voice traffic on the US networks with wireless voice minutes rising at 36% per year currently. Indeed, we estimate that the number of cell phone users will exceed the number of US wireline access lines some time during 2005. Meanwhile the total number of US access lines fell in 2001 for the first time since the Great Depression and continues to fall, despite a strong economy suggesting that long established wireline service is being substituted for by other technologies. For wireless our average price per minute at \$0.10 is the lowest of all the developed countries tracked by Merrill Lynch—and still falling at close to 20% per year. This continues to drive new patterns of behavior—indeed an estimated 7% of telephone users only have a cell phone.
- Broadband penetration at end 2003 was 22% of US homes. We estimate total year-end 2003 broadband subscribers of close to 23MM, higher than any other country in the world, with net additions of subscribers of 7MM—the highest absolute level of any country in the world. It has to be said however that penetration is lagging other markets at 22% of homes and 8% on a per head of population basis. Of larger countries Korea and Canada stand out with penetration levels twice or more that of the US. But US penetration still ranks higher than all of the UK, Germany, France and Italy—and some 10x that of China. We project US broadband subscriber growth of roughly another 7MM in 2004 taking penetration to 27% of homes at the end of this year. Broadband subscriber growth in 2001 was just 4.8MM. This acceleration of broadband growth is perhaps not surprising—prices have fallen and speeds increased combining to drive improved “value” for customers.
- As broadband deployment picks up the new data “platform” created by high-speed internet local access and the public internet is being put to use. Insurgent players such as Vonage have gathered much attention as they deploy VoIP, in Vonage’s case to just in excess of 100,000 numbers (the term “line” becomes meaningless for an IP based offering). More importantly perhaps major cable companies have indicated they will deploy VoIP phone service to all their markets—in Cablevision’s case that was achieved end 2003. Meanwhile for the real aficionados there is Skype. Indeed it may well be that VoIP proves to be not just a consequences of, but actually a driver of, broadband take up.
- Major incumbent providers are rising to the challenge. Verizon recently committed to invest \$2B over the next two years to accelerate the transformation

of its wireline network. As part of that effort they announced that they had selected Nortel as their VoIP equipment provider and, at an investor conference they hosted last week, laid out plans to deploy VoIP over DSL starting next quarter. They cited the benefits to customers of new innovative services and, for themselves, lower costs of network operations. Meanwhile Verizon has also announced it will spend \$1B to deploy a high speed wireless service to most major markets by end 2005—offering internet access at speeds 8x that of dial up.

- In the enterprise market in November last year SBC announced a VoIP deployment for business as part of this major carriers strategy to compete in the enterprise market in and out of its local service region.
- The industry is offering consumers the opportunity to “bundle” services at attractive price points in a way unheard of even just a year ago. For example all of the major ILECs will launch packages of telephony, data and video services (by working with satellite providers Echostar and DirectTV) this year. Better rates are available from cable providers if you take their “triple play.” Wireless can be bundled with wireline in some areas with the added benefit of a single bill.
- And finally, as reported in a survey of advertising trends we at Merrill Lynch released in December 2003, the outlook for ad spending by telecom companies remains firm as they seek to promote new services, new packages and new price points.

Whilst selective these datapoints suggest that when observed through the lens of the consumer things look rather different than that provided by the stock market. Indeed arguably totally different. As I have noted in several of my research reports, investors and for that matter company managements looking for some major regulatory shift or other “solution” to the “problem” of telecom miss the fact that, for most all of 293MM Americans there is really no major problem. Clearly on a case-by-case basis many individuals suffer from service availability of quality problems. But I would argue that for the majority the state of the telecom market looks pretty good—prices are falling, the range of products and services (and the number of players offering those products and services) is expanding and quality is rising also.

Note that telephone spending, as a percentage of household expenditures, has remained at about 2% for decades. However, think about what you get today vs. 20 years ago. Today your telephone service includes unlimited local calling, unlimited long distance, a number of calling features and a wireless service offering a large bucket of minutes and the utility of nationwide coverage.

On the subject of broadband I know the issue of the level of penetration in the US has concerned policy makers. My observations here is that whilst the 22% penetration of households may lag the 80%+ we see in the “market leader” today, namely Korea, that deficit does not (any longer) reflect lack of investment by the communications industry. The reason I say that is it seems to me that we have a take up deficit, not an availability deficit. The three largest wireline providers have reported that something at or approaching 80% of their access lines were DSL capable at end 2003. And some of the highest levels of DSL penetration have been reported by small rural carriers such as Madison River. Meanwhile the \$80B the cable industry has spent upgrading its networks in the past decade gives them close to 100% availability of cable high speed data across the 68% of homes served by the cable companies (TV homes passed by the cable industry is 95%). That suggests, allowing for some mismatch in footprints, perhaps 85% or more of US homes have a terrestrial “pipe” into their home over which they could currently get broadband—if they wanted it and could afford it. Indeed combining the two primary terrestrial broadband platforms with wireless broadband that will be delivered over conventional cellular networks and other means of broadband access (WiFi; so called WISPs—wireless internet service providers; satellite; powerline) and within two years I suspect broadband in some form will be available to 95% of homes—that is as many as use conventional phone service today. By then uptake will be close to solely a function of affordability and desirability.

It’s fair to say that there are aspects of the US scene that do look, say we say “odd”—especially to non-US observers. The US bankruptcy laws certainly have an impact on the state of competition in the US market that differentiates it from other countries. I have dubbed “The Frankenstein Effect” the phenomenon by which several large bankrupt long distance carriers (such as MCI, Global Crossing, Williams Communications, 360 Networks) have or are about to emerge from financial restructurings which leave their assets intact but their debt burdens greatly reduced. The plus point for the US economy is that multi \$B investments in new technology networks have not been idled but remain in active use. The negative point as, seen by competitors such as AT&T, is that over capacity has not been reduced with consequent sustained downward pressure on prices. But, as with other areas

of US telecom where prices are deflating, while AT&T and others are impacted the broader economy enjoys the offsetting but more diffuse benefits of lower telecommunications costs.

The US regulatory regime is complex. I for one do not envy Chairman Powell and his colleagues at the FCC their task of fitting today's telecom world into a framework defined by the 1996 Act. The Act was signed into law in February 1996 but as I understand it had been several years in the making—so the market structure, technology environment in which it was framed is actually close to a decade old. A decade is a long time in telecom. One example. I have noted that there are 157MM cellular subscribers in the US today—at end 1995 there were just 34MM. As a force for so called intermodal competition wireless was simply not on the map when the act was being drafted. That said the Act is, after some delay and with intervention through the courts all the way to the Supreme Court, clearly having an impact as the “cross entry” battle between incumbent and local carriers heats up.

A crucial measure of the state of an industry particularly for investors is, of course, cash. As investors have been reminded through the last several years, companies ultimately generate value for equity owners and ensure their viability through the delivery of products and services at prices that allow them to cover their day to day expenses, invest in assets to support current business and growth opportunities as well as meet the needs of the tax collector and providers of debt capital. Particularly in telecom “Free Cash Flow”, the cash left over after meeting all these needs and thus available either to distribute to equity owners, to pay down debt or perhaps acquire new businesses is now a very closely followed metric.

Despite the genuine anguish that the industry has suffered, including of course that of the many workers who have lost their jobs, this measure tells an interesting story. I combined the results of the all the US telecom service providers, wireline and wireless, covered by the Merrill Lynch research team. The result? Aggregate free cash flow (before dividends) in 2001 from these companies was negative \$4.2B. We estimate that in 2003 it was positive to the tune of \$42B. The point being that the industry has refocused attention on the most compelling investments, has adapted to the decline being experienced in some areas, has responded to investor pressure to better manage capital programs and balance sheets and has reduced costs in an effort to maximize profitability even in an environment of increased competition and falling prices. Consequently free cash flow has risen dramatically. Indeed all of SBC, BellSouth and AT&T acknowledged their stronger balance sheets and healthy cash flows and raised their dividends to equity owners by between 16% and 27% in 2003. SBC alone pays annual dividends now running at \$4.2B. I think many people looking at the telecom industry might be surprised by these statistics.

That's not to say that the industry structure is perfect as it is by any means. Indeed in any industry undergoing the level of change and stress that we see today in telecom new combinations of companies form, and more likely than not, there will be consolidation over time in the US industry. From the service providers view point consolidation can bring more stability to the market structure, which in turn can foster investment, so not necessarily being harmful to consumers. I think this is one issue that both the anti-trust authorities and telecom regulators will have to deal with in the next few years.

Another challenge, particularly with respect to regulation, is the “how do I get there from here” problem. The nirvana of ubiquitous terrestrial and wireless connectivity at broadband speeds offered through multiple platforms by multiple providers is one in which regulation will likely play a very limited role. However the legacy of monopoly, the geographic based and jurisdictional decisions that made sense in a monopoly or near monopoly, environment will live on for some time. And quite rightly so given the safeguards they provide to consumers. But the current framework throws up non-trivial problems looking into the future—How should the objective of universal service be pursued and funded? Do we consider just basic telephony or broadband in our Universal Service objectives—and what about wireless? What happens to the access charge regime (especially in rural areas with their higher termination rates)? What should the balance between state and federal responsibilities be especially in a more data centric world? How should VoIP be regulated—is it a phone service or not? Whatever it is, how should the balance between economic and social policy objectives be struck for VoIP? And would “too much” regulatory intervention stymie innovation related to VoIP? How do we bring together the regulation of cable and telecom as the services each offers converge? There are no easy answers to those questions. Whatever decisions are made, changes in areas such as the USF and access charge regimes will inevitably create winners and losers in the corporate world as of course will VoIP.

My conclusion is that, considered in the round, the state of competition in the US telecom market is mostly “good”. There is robust competition in many consumer and

business markets between traditional providers, there is growing intermodal facilities based competition (from wireless and increasingly cable companies). Prices are falling, offerings expanding and quality generally is rising. Crucially the major incumbent players are dealing with painful transitions as revenues shrink in some areas (wireline voice, especially long distance), grow in others (noticeably wireless and broadband) and shift between players yet at the same time are generating adequate cash to finance investments in their current infrastructure as well as new technologies. Meanwhile new technology is enabling new competitors to enter the market place.

Finally what changes are to come? My closing thought is that the transition of the telecom industry from a voice centric to a data centric model, under way for many years now, is still at an early stage. Roughly speaking voice accounts for 80% of industry revenues but 20% of traffic as measured in bits—a form of Pareto rule. As technology, and in particular broadband local access break down the ring fences around the voice world traffic bits will migrate to the cheaper transport path, namely data—and mostly data transported as IP packets. As this happens the ties between infrastructure and services are broken and, in the jargon, “voice becomes an application” running over the data network. I suspect that the competitive forces we see today will pick up speed—as evidenced late last year when a swathe of major carriers announced VoIP services within weeks of each other. In this sense I suspect that a more profound reshaping of the industry has only just begun. I have no doubt that the consumers and businesses that use telecom services will come out clear winners. For telecom investors the winners in the service provider world are much harder to predict.

Mr. UPTON. Thank you very much.
Mr. Zachar.

STATEMENT OF NED P. ZACHAR

Mr. ZACHAR. Good afternoon. Thank you very much for having me, Chairman Upton.

Mr. UPTON. You might need to get that a little closer.

Mr. ZACHAR. I am very pleased to be a resource for the committee. I am honored to do this. So thank you very much for having me.

My name again is Ned Zachar, and I am the Director of Telecom Services Research at Thomas Weisel Partners. I have covered the media telecom space for 16 years, all in the research side of the business. Our team at Weisel covers approximately 30 stocks, both U.S. and international, total market cap of \$525 billion and a range of companies from a \$1 billion United Online company to some of the largest companies in the world, Verizon, AT&T which have multi-billion dollar market caps.

By sector, our coverage includes wireless and wire line, cable, DBS, ISPs, Tower Management, which gives us a pretty wide perspective on today's topic.

My comments today are a compilation of several reports we have written in the last several months, and they basically address the issue of competition head on. So I would like to include those as part of the record.

The increasingly competitive environment for U.S. communications companies is a major factor in our investment thesis. It directly impacts the sectors that we are encouraging investors to be involved in and those sectors which we are steering investors away from.

Generally speaking, we have favored investment in the cable and wireless industries and steered people away from the RBOCs and the long distance companies, primarily because of the market share issues that we are talking about today.

The communications services business is about \$400 billion in the U.S., about 3.5 percent of GDP, also growing at about 3.5 percent on an annual basis, and has been reasonably consistent over the last decade or so. While that spending has been reasonably consistent, there are several undercurrents going on in the industry which, I think, are worth noting.

First, the effects of the Telecom Act of 1996 have applied and continue to apply steady pressure on the established incumbent companies such as the RBOCs and the interexchange companies like AT&T.

Second, in our view, technology is accelerating the competition between the various subsectors and is a phenomenon that is clearly benefiting businesses and consumers.

For example, because of much better wireless network coverage and quality, as many as 5 percent of U.S. households have cut the cord and gotten rid of their wire line phones, and choosing instead to manage their lives with only a cell phone. I think changing U.S. demographics will only accelerate that trend.

At this point in time, we think that the U.S. communications marketplace is approaching a significant knee in the curve whereby a combination of generally pro-competitive policymaking and additional technology advances are set to provide U.S. businesses and consumers with new choices in service providers as well as new services that do set us apart from the rest of the world.

I want to hit on just a couple of factoids to give you a sense of how much market share losses are occurring for the incumbents. Consider the following.

We expect the share of residential lines controlled by the ILECs to fall from about 80 percent to around 69 percent over the next 5 years. Second, despite the addition of local UNE-P lines, we expect the share of telecom dollars controlled by AT&T, MCI and Sprint to fall from 11 percent to 8 percent over the next 5 years. That is about \$4 billion as measured by our models.

Third, we expect the number of wireless users to increase from 154 million to almost 200 million over the next 5 years. It is hard to tell how many of those are actually going to be cutting the cord and going "wireless only," but with 5 percent roughly today, it is easy to see that you could see a number that is two or three times as high in 2008.

Then last on this point, the number of cable television telephone customers, largely using voice over IP, will increase to around 3 million to 13 million, again over the next 5 years on the tables that contain this data in the back of my statement today.

At this point, let me just shift a little bit toward the future. It is a difficult endeavor, but of course, our customers want us to do that. We see three major telecom tailwinds impacting the communications marketplace today, each with their own distinct time-frame. We would define a telecom tailwind as a regulatory trend or a technology catalyst which would cause changes in behavior either by the service provider or the consumer.

The first telecom tailwind that we are seeing is wireless. It is not new, but it remains a very powerful change agent in the communications marketplace. It gained serious momentum in 1996 when the PCS frequencies were auctioned off.

Since 1996, the number of wireless customers in the U.S. has grown at a compound rate of 21 percent, and 13 percent of all dialed minutes are now on wireless networks as opposed to just 2 percent in 1996.

The second telecom tailwind is voice over internet protocol. Most everybody today has touched on this as a major trend. We, of course, agree with that. It is now just coming into its own, literally as we speak, and the attractive thing about this technology is that, with a relatively modest amount of investment, the cable industry, for example, will be able to generate very attractive returns on capital, despite modest penetration assumptions.

Third, as far as a telecom tailwind is concerned, is wireless broadband, a little bit more of an obtuse concept, but we would define it as a mix of established wireless standards, including 3G, as well as some emerging technologies, companies like Flarion Technologies, Navini Networks, IP Wireless as well as WiFi.

In our view the best hope for affordable ubiquitous broadband access is likely to be developed within the wireless sector rather than by the established cable telecom duopoly that we see today.

I would like to finish my statement with a handful of observations, recapping our viewpoints here. In our view the competition in the U.S. telecom marketplace is robust relative to the rest of the world, and likely to increase in intensity over the next several years because of current legislative and agency policies as well as technology.

Second, the increasingly competitive environment is clearly a key factor driving our investment recommendations within our research franchise.

Third, there are several new technologies that are likely to intensify that competition moving forward. Last, while I was not asked to opine directly, I think there are several items that Congress and policymakers, including the FCC, could prioritize which would help the industry overall as well as consumers, and they include spectrum management issues, haphazard local zoning restrictions, E-911 capabilities, UNE-P reform, definitional issues such as telecom service versus information service definitions, and last, access charge reform.

Thank you very much for listening to my statement.

[The prepared statement of Ned P. Zachar follows:]

PREPARED STATEMENT OF NED ZACHAR, THOMAS WEISEL PARTNERS

1. INTRODUCTION

I am pleased to be a resource for the Committee and am honored to have been asked to participate in today's hearing.

My name is Ned Zachar and I have followed the Media and Communications sector—either as a fixed income or equity research analyst—for all of my 16-year business career. Our team at Thomas Weisel Partners covers approximately 30 US and International companies with a publicly traded market capitalization of approximately \$525 billion dollars.

The size of the companies we cover varies substantially—and include \$1B market caps such as United Online as well as some of the largest companies in the world—including Verizon and AT&T Corp. By sector, our coverage includes Wireless and Wireline Telecom, Cable, DBS, ISPs, and Tower Management—which gives us a wide perspective on today's topic.

2. TELECOM COMPETITION IS A MAJOR FACTOR IN OUR ANALYSIS

Today's hearing—of course—addresses the state of competition in the telecommunications marketplace. Several reports we have recently completed, including our *“2004 Outlook—For Some the Recovery Will Continue”* and *“Race for the RGUs”*—address this issue head-on. My comments today are a summary of those reports and I have included them for the record.

The increasingly competitive environment for US Communications companies is a major factor in our overall investment thesis. It directly impacts which sectors we are steering investors towards—and which sectors we are steering investors away from. Generally speaking, we have favored investment in companies that can maintain current market share (usually because of a product or technology advantage) while stealing successfully from others. In general, the wireless and cable industries fit that profile while the RBOCs and especially the long distance companies do not.

Let me elaborate briefly. Based on our Firm's estimates, the US Communications Services industry—not including equipment sales—is comprised of nearly \$400 billion of annual end-user spending. As a % of GDP, annual telecom spending is about 3-1/2% of the U.S. economy and has been growing on average, roughly in line with the US economy.

Thus, the pie of spending is quite large but not growing all that fast. Average annual spending has been reasonably consistent overall—though there can be some year-to-year variability within each subsector. However, beneath this veneer of consistency, there are subtle but powerful undercurrents occurring that we think should be noted.

First, the effects of the 1996 Telecom Act—along with subsequent agency and judicial interpretation—have applied and continue to apply steady pressure on the established incumbent companies such as the RBOCs and the interexchange companies like AT&T Corp. and the reconstituted MCI. Our market share statistics in Figure 2c illustrate the point.

Second, in our view, technology is accelerating competition between the various subsectors—and is a phenomenon that is clearly benefiting businesses and consumers. For example, because of much improved wireless network coverage and rapidly falling per minute prices, it has been estimated that as many as 5% of US households have dropped wireline service altogether—choosing instead to manage their relatively mobile lives via a cell phone. Changing US demographics will likely accelerate this trend, in our view.

At this point in time, we believe that the US Communications marketplace is approaching a significant “knee in the curve” whereby the combination of a) generally pro-competitive policymaking and b) additional technology advances—are set to provide US businesses and consumers with new choices in service providers and/or new services that will set us apart from the rest of the world competitively.

There are several tables at the end of my written testimony that illustrate the competitive dynamics I noted above. A few key factoids from our tables are relevant to mention:

- 1) We expect the share of residential lines controlled by the traditional ILECs to fall from 79.2% as of the end of 2003 to 68.6% by 2008. Key market share gainers will be the wireless, LD and cable television industries.
- 2) Despite the addition of local UNEP, we expect the share of telecom dollars controlled by AT&T, MCI, & Sprint (the three major US LD providers) to fall from 10.9% to 7.7% over the same time frame, from \$29.7 billion to \$25.8 billion.
- 3) We expect the number of wireless users to increase from 153.8 million at the end of 2003 to 196.7 at YE 2008. While we do not estimate how many of those users will be “wireless only”, with roughly 5 million having already “cut the cord” it's reasonable to believe that number would be 2-3x as high in 2008.
- 4) We are estimating that the number of cable television “telephone” customers will increase from 3.2 million to 13.0 million between YE 2003 and YE 2008.
- 5) We estimate that residential high-speed data connections will increase from 23.4 million at YE 2003 to 46.4 million at YE 2008. We have also estimated that the cable industry will have about 65.4% market share with the balance held by the ILECs.
- 6) In pay television, we estimate that the DBS industry will have about 30.1% market share by YE 2008, compared to the 23.2% market share they have today. Overall, we expect total pay television subscribers to increase from 93.1 million at YE 2003 to 103.5 million at YE 2008, representing 90.5% penetration of U.S. television households.

Based on our work, the wireless and cable industries—and our data supports this—are gaining market share, and thus deserve more investment attention—than the RBOCs and the LD companies, which are treading water at best.

3. FUTURE COMPETITIVE CATALYSTS

At this point, let me shift the discussion toward predicting the future, which is usually a difficult endeavor—but one that our customers clearly think is “part of the job”.

We see three major “Telecom Tailwinds” impacting the competitive landscape within the communications marketplace—each with their own distinct timeframe. We would define Telecom Tailwinds as technology or regulatory trends that are likely to be major catalysts for changes in behavior—either by the service providers or their customers.

1) The first Telecom Tailwind, Wireless, is not a new trend but it remains a powerful change agent in the communications marketplace. In our view, it really gained momentum in 1996 with the auction of 1900 MHz PCS spectrum. We expect this tailwind to last for at least several more years as US penetration drives toward 70% of the US population. The increasing popularity of wireless is being driven primarily by ongoing improvement in network quality and changing US demographics. Since 1996, the number of wireless customers in the US has grown at a compound rate of 20.9% and the number of minutes of use has grown at an astounding compound rate of 46.5% annually through 2003. At present, we believe the share of minutes on wireless networks is approximately 13.1% of total reported dial minutes, up from 1.6% in 1996.

2) The second Telecom Tailwind is Voice over Internet Protocol which is really a breakthrough technology that enables voice traffic to make use of highly efficient packet-switched networks. VoIP has been talked about extensively for several years but is now coming into its own—literally as we speak. We are enthusiastic regarding the prospects for VoIP technology and its ability to change the economics of telecom. It reduces the necessary capital outlay for new competitors and enables—for example—the cable industry to generate attractive returns on capital with modest penetration assumptions. With regard to the incumbents, we do not see VoIP as a significant new tool (other than as a mechanism to potentially avoid established regulatory constructs) given that their embedded investment in circuit switching remains viable and has already been paid for.

3) And the third Telecom Tailwind we see is Wireless Broadband which is a more obtuse concept that we would define as a mix of established wireless standards—that is 3g—and emerging technologies that will likely eventually enable high speed access—that will allow business and consumers to truly “cut the cord” for data service. Substantive wireless data projects should begin in 2005 and could provide added competition for wired data service to homes and businesses. While one usually thinks of established European and U.S. 3G standards for wireless broadband, other new technologies such as those developed by Flarion Technologies, Navini Networks and IP Wireless represent new opportunities for consumers as well. Additionally, the IEEE wireless standard 802.11 (commonly known as WiFi) is literally spreading like wildfire despite several inherent technology disadvantages—especially the limited range of signal. In our view, the best hope for affordable, ubiquitous broadband access will likely be developed within the wireless sector—rather than by the established cable/telecom high-speed duopoly.

4. CONCLUSION

I finish my statement with a handful of observations recapping the current state of competition in telecom.

a) In our view, competition in the US Telecom marketplace is robust relative to the ROW and is likely to increase in intensity in the next several years because of current legislative/agency policies and technology.

b) The increasingly competitive environment is clearly a key factor in driving our investment recommendations within our research franchise.

c) There are several new technologies that are likely to intensify the competitive environment moving forward.

d) While I was not asked to opine on policy directly, we think there are several items that Congress and the FCC could prioritize which would help the industry overall AND consumers including: a) spectrum management issues, b) haphazard local zoning restrictions c) E-911 capability d) UNEP reform e) more refined definitions for telecom versus “information services” and f) access charge reform.

On behalf of myself and my Firm, I would like to thank the House and specifically the members of the Energy and Commerce Committee for listening to my presentation and I would be happy to answer questions at the appropriate time.

Mr. UPTON. Well, thank you, all of you. That is for sure. At this point we will proceed to members asking questions, and we will be observing this 5-minute rule with the clock behind us.

Mr. Balhoff, in your statement you said, and I quote, "Accordingly, today we have more competitors offering residential local exchange services based on regulatory approaches that, however well intentioned, have not spurred viable long-term enterprises."

I want to focus on the end of that statement, "have not spurred viable long-term enterprises." Why do you suppose that that is the case?

Mr. BALHOFF. The issue, I believe, is that the current UNE and UNE-P regime basically was supposed to be like the telecom—the long distance telecom reform that occurred in the 1980's, and the assumption in that particular period was that, if we gave enough discounts, usually through a presubscription in the case of long distance—if we gave enough discounts, people would get enough customers and would build the assets necessary to offer long distance.

In this case, the profit spread is nowhere near what the spread was in long distance in that particular era. So no matter how many customers, I think, that the AT&Ts and MCIs of the world get, they are not going to be able to justify the necessary investment to put loops and robust switching and other types of services.

So my contention is that the current regulatory regime is beating its head against the wall on the residential side, because we have kept rates low, very successfully, as part of public policy for the last 100 years. However, VoIP changes that. VoIP effectively offers a much less expensive way to do it, so that the technology allows us to create real competition that I contend is asset based, and I believe that the competition that we had before or we have now on the residential side is not really asset based as much as it is right now the assets of the LECs.

Mr. UPTON. Well, that goes right to my next question. That is: When the cable companies aggressively deploy VoIP, which they are about ready to do, why do you think that that calls into question the burdensome regulatory regime faced by the ILECs?

Mr. BALHOFF. The issue is that right now we have relatively unclear rules with respect to the UNEs—that is, how much they must discount their investment for not only the legacy investment but the new investment. The current rules, the way that I read them in the most recent decisions, suggest that the carriers are relieved of their obligation to lease their network—that is, the incumbent telephone companies—only if the fiber optics and the various other electronics actually go to the premises.

Some of the carriers say we need a variety of different ways in which to be able to put investment into place in order to be able to provide additional alternatives. I am not an advocate for the LECs, but what I really see is that the cable operators are in the catbird seat currently, because they have the ability to offer these types of services that are going to be very compelling to consumers, and I think that we need to incent and provide clear rules for all of the carriers that are out there so that there can be a robust competitive marketplace.

Mr. UPTON. Which goes to your statement that you made—It goes to the comment that you made in your statement, that we indeed have a very uneven playing field as we look to the future.

Mr. BALHOFF. Yes. I think technology has really changed it effectively, and this is no criticism of anybody from 1996 or 1999 or whatever. The reality is that technology has now made it possible for competitors, small and large, to begin to get into these marketplaces. But ultimately, I will contend, it is an asset based network, whether it is wireless or cable operator or local exchange carrier. It is an asset based economy or business that we must really continue to support. Otherwise, it is not going to be competitive.

Mr. UPTON. Mr. Quinton, what do you think about that statement at the end?

Mr. QUINTON. There is obviously a variety of questions there. I think, in terms of the viability of the resale model, frankly, from our point of view, the competitive carriers using the resale model, many of them, present the financials on a somewhat opaque basis. It is actually hard to judge quite what the viability is.

I am aware that there are some smaller private carriers operating through a resale model. They have built local switching capability. Because of the bottleneck nature of the local loop, they have not built local loop, but by using resale local loop along with switching of their own provision, they are able to generate a business model, create a business model which does, on the face of it, work in the sense that it produces profit and generates cash-flow.

So if we go back to the basic question about the viability of the model through resale, I think there are some examples which prove that it can be a sustainable model.

Mr. UPTON. Mr. Davis is recognized for 8 minutes.

Mr. DAVIS. Mr. Chairman, since I just down, can I pass and you can come back to me?

Mr. UPTON. Sure. Mr. Stupak, recognized for 5 minutes.

Mr. STUPAK. Thank you, Mr. Chairman. When we talk about competition here, Congress and the FCC has repeatedly recognized that competition brings lower price and higher quality for customers. The FCC's latest statistics, according to what I have, show that over 12 percent of the Nation's ZIP Codes serving nearly 35 percent of the households have a choice of at least 10 providers for voice service.

Some of these providers use the unbundled network platform, UNE-P. Others combine their own facilities with facilities they lease from the incumbent carriers. In either case, wouldn't you agree that consumers in those areas are benefiting from competition? Mr. Balhoff?

Mr. BALHOFF. I think that they are certainly benefiting from lower prices. I think that ultimately we are going to have to have an entire network that is going to be higher speed band width. So the network that we are migrating to is a much different network from the one which we have known.

Mr. STUPAK. Well, as we migrate to it, will we be limiting competition unless there is some way to broaden that asset based economy, as you said?

Mr. BALHOFF. I think that there has to be higher speed band width, both from wireless, from the cable operators, and also from the local exchange carriers.

Mr. STUPAK. Who has the—I will use the word upper hand here, the cable or the local exchange operators?

Mr. BALHOFF. There is no question in my mind that it is the cable operator that is capable of much higher speed bandwidths, so voice, video and a variety of other things that are attractive in the bundle.

Mr. STUPAK. If you were to try to level the playing field so we get at this competition, which was, I believe, the goal of the 1996 Act, how would you do that? Do you have some suggestions on that, if cable has the upper hand now?

Mr. BALHOFF. I don't know that I have suggestions nearly as much as I feel that we have got to revisit whether or not the playing field is really even to incent the necessary investment. My commentaries that I have written about the local exchange carriers basically have said it is a rather daunting thing for them to actually begin to offer the kind of high speed services that it appears that the cable operators are going to be able to offer.

So I think that they are behind the eightball unless they begin to invest. The commentaries that I have gotten from a number of the CIOs at the telephone companies suggest that the difficulty they have is that they do not feel that there is enough latitude with respect to the UNE pricing so that whatever they invest, unless they go to the premises, is really going to have to be shared effectively with the competitors. They don't believe that that is a satisfactory proposition.

I don't have the information to be able to judge that fairly. As Mr. Quinton indicated, we don't have all of the data that these carriers have.

Mr. STUPAK. Is it fair to say, based upon your testimony, that—trying to think how best to phrase it. Is it your understanding that Bells, if I can use that word—Bells believe that the voice that we are talking about is not subject to fees, access fees on their lines?

Mr. BALHOFF. Well, actually, they are paid access rates themselves. So they are the beneficiaries of access rates. But I think that they want to put in a network that they believe is going to be competitive. For the most part, I detect a real fear on the part of the Bell companies that they are not going to have the necessary assets to compete.

Mr. STUPAK. And on the assets, couldn't the Bells charge more on their lines to try to get the monetary necessary to put the assets in place?

Mr. BALHOFF. Well, they don't have the freedom to vary the kind of charges that they would assess, but I don't think that that is really it nearly as much as the fact that they do not have the assets to be able to provide the kind of high speed services that we are generally seeing being introduced by the other operators that are out there.

Mr. STUPAK. Like cable?

Mr. BALHOFF. So the challenge, it seems to me, is that we are going to a world that we can fairly clearly see is going to be based upon high speed services where their copper based network is very

well suited to voice but not necessarily to high speed services. So they are disadvantaged unless they begin to put investment into place. That is my opinion.

Mr. STUPAK. You mentioned quite a bit about the voice in your testimony. Voice right now is not subject to an access fee. Right?

Mr. BALHOFF. If a long distance carrier or another carrier terminates a call in somebody's region, then the local telephone company receives in that case about a half a penny per minute for that particular service. So they do get paid for the use of their network.

On the voice over IP issue, the thorny problem that the regulators are going to have to figure out is whether or not access is going to be—whether they have an obligation to pay access for these particular services that are terminated or originated in somebody's network. Those issues are not yet clear, and that is before the FCC at present.

Mr. STUPAK. What is your feeling. Do you think they should be subject to fees?

Mr. BALHOFF. I think that people should have to pay for a network that they use. That is my opinion.

Mr. STUPAK. No matter where it terminates?

Mr. BALHOFF. The question is whether or not the rates are at the same kind of levels, but that is my personal opinion.

Mr. STUPAK. Thank you, Mr. Chairman.

Mr. UPTON. Mr. Stearns.

Mr. STEARNS. Thank you, Mr. Chairman. Mr. Zachar, do you see voice, VoIP, emerging as a lower cost technology for businesses in terms of moving this packet of communications information, voice, media and so forth?

Mr. ZACHAR. Somewhat lower cost from an operating standpoint, but the primary advantage is that the upfront cost to get into the business, the voice over IP equipment that basically replicates what a circuit switch can do, costs much, much less.

So it is that much easier to earn a reasonable return on the money you are putting out, because if you are talking about spending \$1 or \$2 million as a cable operator in a given market, as opposed to \$8 or \$20 million or even more, you don't need a gigantic amount of market share in order to get a fair return.

Mr. STEARNS. Earlier, I think Mr. Balhoff mentioned that asset backed competitors were necessary to enhance VoIP competition. I think in your testimony you say that voice IP is not a significant tool for incumbents, given their investment in circuit switching. So that is what you are saying here.

So how would you compare your comment to what he said earlier with his asset backed competitors were necessary to enhance? I mean, is there a contradiction here?

Mr. ZACHAR. I am not sure that there is. What I was trying to get across is that I am not sure there is a gigantic benefit for the incumbents in using voice over IP other than as a means to possibly circumvent regulatory structure. For the cable operators who have not invested in circuit switches because it has been really expensive—you know, we had a monopoly for, basically, the last 100 years or until the last 5 years, for reason it is expensive to build these networks, the circuit switching that was necessary and in place for the incumbents.

With the cable operators using voice over IP, they can spend not a fraction but much, much less money, get 10 or 15 percent penetration, and then that is a reasonable economic scenario for them, as opposed to having to spend a lot of money for circuit switching, which is still a pretty expensive endeavor.

Mr. STEARNS. Mr. Balhoff, anything you would like to add?

Mr. BALHOFF. No. I believe that we have really got to parse some of the discussion that we have here, because a lot of the issues that Ned and various others of us are talking about are that there are going to be services that will ride over the network, and there is going to be the network that is in place. The traditional network is not very robust for the telephone companies. It is much more robust because of the investment that the cable operators have put in place over the last 7 or 8 years.

So we are going to find small companies are going to be able to benefit from services that will ride over this network, and things that we have not really imagined up to this point in time will be beneficiaries. But we have carriers, and we have other types of services. I think that this particular network makes possible the proliferation of varieties of services.

Mr. STEARNS. I guess this is a question for all the witnesses. Do you see, any of you, that there is a major regulatory hurdle facing voice IP and, if so, how should this be addressed? If you don't think so—I will just start and go from my left to my right.

Mr. BALHOFF. I feel picked on. There are a variety of things on the voice over IP side. One of them is whether or not some sort of access fees are actually going to be assessed on them, whether or not—

Mr. STEARNS. You heard my opening statement. We talked about universal service, all these things you got to decide.

Mr. BALHOFF. Yes. All of those issues are going to be critical issues related to this. One of the problems is that we find a way that we have some sort of parity of fees that are laid on top of whatever networks, I think, in order that there be appropriate competition.

So I really do believe that the regulators are going to have to assess that one. Also, access fees—Right now there are inter-carrier groups that are beginning to suggest entirely different ways to be paid, because right now there are three ways a telephone company is paid.

One is from access fees, which comes from carrier resolutions between them. A second thing, from the customer, and the third thing from universal service. So we are probably going to see a change in the access regime, and we don't yet know what that is going to be at this time.

Mr. LOUTHAN. I would say there are several issues, the 911 and Lifeline services as well as law enforcement issues. I think those can be largely dealt with, with some technology. I think that is something that the industry will probably easily come to resolution on.

Mr. STEARNS. I guess you could put software and take care of it.

Mr. LOUTHAN. Correct or some other sort of process that would address those issues. I have heard some of those described to me by the companies.

The other issue, as Mike and others have mentioned, is the access charges. I think that is something—That is an issue that is out there in the industry already, and I think voice over IP is probably a catalyst that starts to address the issue: How do we look at access charges? What was the original intent of them, and as we are looking at the 1996 Act and the changes in technology, is this the proper regime going forward? That is going to have some big implications for a lot of companies. So I think it is one issue that—That is probably going to be the more difficult argument for the industry and regulators to get around.

Mr. QUINTON. My observation would be that it is important to distinguish between what you might call societal regulation and economic regulation, and policymakers have to take a view on those two things.

From a societal point of view, there are clearly some aspects of the telecom regime which, I think, would be commonly accepted as something that should be applied to VoIP just in the same way that it applies to conventional telephony. We have obviously talked about USF, 911, clear requirements.

To go beyond that and impose economic regulation as it affects pricing and access fees and other things and impose a lot more of the burdensome regulation which the common carriers currently face is another issue entirely. Again, it is for policymakers to decide quite how far to go on that.

I would make one observation. That is that, despite all the press commentary and analysts reports, for that matter, on VoIP, we shouldn't forget that currently only .1 percent, 0.1 percent of telephony subscribers in the U.S. use VoIP. So we are talking about something that is still incredibly nascent.

Mr. ZACHAR. Adam hit on exactly the right point. I think the policymakers have to define what the obligations are of the provider, and then from there you can figure out how do you create regulatory parity.

One of the most successful cable operators on the telephone side using circuit switching is Cox, and they are about to launch in, I believe, North Carolina or Virginia with a voice over IP apparatus and infrastructure. They intend to charge exactly the same kinds of fees and pay the same kinds of taxes that they have been paying on their circuit switch—for their circuit switch customers.

So defining what the obligations are for voice over IP, I think, is incredibly important. If they are not required to comply with 911 or CALEA, and that is a big issue, and then beyond that, how they ought to be paying their fair share of the economics, I think, is something that has to be wrestled with.

While a very small number of people are using voice over IP today, it feels to me like it is about to explode.

Mr. STEARNS. Thank you, Mr. Chairman.

Mr. UPTON. Thank you. Mr. Davis.

Mr. DAVIS. Thanks, Mr. Chairman. My first question is for Mr. Quinton. I understand you recently suggested that in the case of Verizon, perhaps some of the other Bell or former Bell companies, that you expected them to put a lot of emphasis on moving faster to deploy VoIP. Could you elaborate on that a little bit? Is that an

expectation you have for the incumbent LECs in general and, if so, why?

Mr. QUINTON. The answer to the question is I do expect them to do that. The first observation I would make at a high level is that something like an AT-20 rule applies in the telecom market, if you look at the difference between traffic volumes and revenues.

By that, I mean roughly 80 percent of the traffic on U.S. networks is data traffic, but it only generates about 20 percent of revenue. The inverse is true when you look at voice. Voice is the minority of traffic, but the majority of revenues. It seems to me that, inherently, the transmission of voice traffic over data networks is going to be an inherently much cheaper proposition, and you are going to see a migration of that voice revenue to data platforms over time as technology allows that to happen.

I think, from the operator's point of view, as they look at that longer term transition, they can see themselves that there are significant cost benefits to them moving voice onto a data platform, and they, I think, will move to achieve some of those benefits which, obviously, have advantages to them in terms of reducing costs.

Also, I think it is not unimportant to add that it is not just a cost issue that will drive that transition. Another issue is the nature of the service. There are many features that you can add to basic voice service that are not currently available through the traditional circuit switch architecture.

Frankly, I think one of the things that will incent the incumbents to make this transition is simply that, if they do not use the technology, it will be used against them in a manner that will be deleterious to them. Obviously, we have talked about the cable industry as a mechanism to deliver a competing service, possibly quite quickly, using VoIP. I think the cable industry using VoIP will be able to take advantage of lower costs and deliver a different service with increased features. Again, unless the incumbent carriers change themselves, they will, I think, have problems over time.

Mr. DAVIS. Mr. Balhoff, you take a somewhat different view in terms of how you expect the incumbents to take advantage of VoIP.

Mr. BALHOFF. I think that there are a couple of things. First of all, I agree with Adam that they are going to have to offer VoIP services. There is just no question about it. It is not just because it is cheaper. Once you begin to use and see the services that Vonage and the various other people have offered, you find that it is a much richer feature set. So you are able to do things that you simply could not do before.

So the intelligence essentially gets moved from the center of the network out to the edge where you can route your calls, inhale your voice mail and forward voice mails. It is a very attractive platform. However, it has got to be over a network that is capable of higher speed bandwidths. So that is the issue, again, that the network has to be able to do that. But Verizon has announced that it is moving forward, and actually, I have had a chance to review their software platform, and it is a very attractive platform.

I have had a chance to use Vonage's. That is also attractive. In some ways, I find Verizon's more attractive but, actually, the price

points for the competitors are going to be far below what the telephone companies are going to offer.

So while Adam is right and Ned is right, that the prices are higher right now and it is still nascent, this is about to explode rapidly, and the prices very possibly for the good of consumers are going to fall out of bed. They are going to drop really rapidly, in my opinion.

Mr. DAVIS. The decision by the FCC in terms of the imposition of an access fee—how critical do you think that will be to decisions by the incumbent LECs about deploying the VoIP?

Mr. BALHOFF. Well, the problem with access right now is that we have had an access regime where in urban markets roughly—to terminate a call, it is roughly half a penny. In rural markets it is just over two cents. That has been the way that we have resolved—I am paying you for the use of your network. I, AT&T, am paying you, Verizon, for the use of your network.

If VoIP does not have an obligation to pay that amount of money, then that is roughly a third of the cost of the long distance calls as we have tended to know them in the past. So there will be some sort of cost advantage in that particular case.

So the real issue, the challenge, is to find a different way for the incumbent carriers to resolve those access payments, and I think there are going to be resolutions where we do not have access to be paid by the VoIP providers, and we are going to change the regime for the telephone companies, because the old regime creates a lack of parity.

Mr. DAVIS. I would like to give Mr. Louthan and Mr. Zachar the chance to comment on this.

Mr. LOUTHAN. As far as voice over IP, I agree. It is a complete change in how you view telephony. It basically takes from a circuit switch role and makes voice telephony a software application, and many of the points that Mr. Balhoff is making about the services and features, the ease with which the company can adjust those and change them, and they are also definitely attractive, clearly, for more computer savvy users.

So it is definitely something that is going to continue to be in the forefront of industry. How much we will actually see it deployed on a broad scale is going to depend, but I think from the incumbent LEC standpoint, they are sort of a win/win situation. They are paying access fees and they are having to charge their customers the taxes and fees and everything else currently. If the voice over IP service is determined not to have to pay that, then great. Then they can offer something similar to that and match competitors. If not, then maybe the competitors have to raise their prices.

I do tend to agree that prices are higher now, but I think, if you look at what the incumbent providers are maybe looking to do with non-core services like pushing up video offerings, they are definitely going to be offering that for lower pricing, trying to get an overall attractive bundle to attract customers. The cable companies are doing the same thing, and they will probably do the same thing with voice and, if they start bundling wireless on a resale basis, they will do the same thing with that to try and protect their core customers.

Mr. ZACHAR. I am somewhat more dubious on the benefits of voice over IP as it pertains to consumers. I think on the business side the collection of unified messaging as it pertains to voice mail and e-mail—there will be some benefits there that would cause the Bells to want to use that as a tool in their toolbox, if you will.

I think on the consumer side, it will take a lot longer for consumers to want to warm up to the benefits of voice over IP. When I think of voice over IP, I think it is primarily a return on investment benefit for the new competitors, something they did not have before. They were forced to use circuit switching, because that was the only way to play in the public switch network, and now that is not the case because of some of the real technology advances.

Mr. DAVIS. Thank you, Mr. Chairman.

Mr. UPTON. Mr. Barton.

Mr. BARTON. Thank you, Mr. Chairman. Appreciate you doing this hearing. I assume you have seen your picture in today's paper.

Mr. UPTON. On my Blackberry.

Mr. BARTON. I would comment that, as a subcommittee chairman of this subcommittee, you ought to wear a dark suit instead of a light suit, but I love the answers down here. I totally agreed with your answers. Did you time that for this hearing?

Mr. UPTON. They asked the questions. I just responded.

Mr. BARTON. I see. All right. Well, I just have two basic questions. My first question, and any of the panel can answer it, if you wish to: Where do you see the market penetration of the VoIP technology occurring on the timeline? In other words, are we going to—Is 20 percent of the market going to be there in a year or it is going to be all 100 percent by next year? How soon is this thing going to catch on?

Mr. LOUTHAN. Some of that, you have to look at on a market by market basis. If you have cable operators that are pushing out voice over IP, they have already got embedded customer bases within a specific market, and you will see much higher concentrations of it from that standpoint.

As far as what the Bell companies will actually do, it depends on how quickly they actually act in rolling out the service. Do they intend to go out of their region with that service? Then you have got the smaller players. Vonage has been mentioned, getting a tremendously growing market share, but it is a nationwide product, and it is coming off a very small base.

So I think you really have to consider that from a market by market basis.

Mr. BARTON. That is not an answer. Right now it is a curiosity, but if you look at the viability of it, if you already have internet access to your home, there is absolutely no reason not to go to it tomorrow. So is this going to make the cell phone revolution look like the tortoise or do you think it is going to take 5 to 10 years?

Mr. LOUTHAN. It very well could, and the applications are there. It is a matter of whether the companies want to actually begin rolling that out, and it could take a very significant share.

Mr. ZACHAR. I will take a stab. I think a third of the marketplace in 5 years will be using some type of voice over IP technology. I would also make the comment, I think it is important what the FCC, this subcommittee, the committee does on these issues now.

I think that could have a real impact on how fast this takes off and how difficult it is from a regulatory standpoint for the cable operators to compete or for the Bells to compete.

You know, the decisions you make today will definitely have an impact on what happens in the next 4 or 5 years, but I think a third of the marketplace will end up on this technology within a reasonable amount of time.

Mr. BARTON. Mr. Balhoff?

Mr. BALHOFF. Time Warner a week ago said that in its test market in Portland it had achieved a 23 percent penetration of its high speed base, which is 9 percent of its video customers and roughly, it looks like, 5 percent of the telephony base in the entire region within the first year.

So it is really a very, very rapid move, and I think that the speed with which it is adopted is partially going to be a function of whether the network is there; because, by and large, the telephone companies don't have the network to offer it satisfactorily and will not be incented to offer it. The cable operators will. So it is a question of whether or not they have high speed data.

Then the other issue is going to be how rapidly the price falls. So Vonage is sitting out there at \$35 for the most part for all you can eat, local and long distance, which compares roughly to \$65 once you roll in all the fees for Verizon, for example, in its service area. But they are also offering a 500 minute plan for \$15. So it is going to be a function of where the price goes, and can the price fall rapidly? Absolutely, it can.

Mr. BARTON. Well, in my—I live in a little town outside of Dallas, and Southwestern Bell is the local provider for telephone, and they charge me \$50 a month when you include all the taxes and everything, and AOL is my internet provider, and they charge me, I think, \$20. So \$70 a month.

If I understand it correctly, I can go to VoIP through the internet right now for \$35.

Mr. BALHOFF. Yes, although the quality of service at this particular point in time is not necessarily high or uniform. But by and large—

Mr. BARTON. That is half.

Mr. BALHOFF. For people who are price sensitive, I think that they will be more attracted over to VoIP, but I think again the feature set is extremely attractive, once you see it.

Mr. BARTON. Mr. Quinton.

Mr. QUINTON. Before I answer the direct question, I will make the observation that you have got to be careful when you compare VoIP pricing and telephony pricing. Bear in mind that VoIP rides on a broadband connection. So I may be able to get service from Vonage or in the near future AT&T and various other people priced at attractive levels, but bear in mind that you have to have a broadband connection to enable you to get that service.

So depending on quite what your provider is, you may have something in the \$30 to \$45 range entry price for your broadband connection before you pay the phone price on top. So you have got to be careful about making the comparison.

Just to answer the direct question, I think one data point is relevant to illustrate the potential here. If you look at Cox Commu-

nications, who have demonstrated that customers are prepared to take telephony service from an alternative provider—obviously, in that case a cable company—if you look at the most developed markets, the markets where they have been offering telephony and in this case it is still circuit switch telephony for the longest, they have reached penetration of something like 50 percent of their basic video subscribers.

That means that roughly one-third of all of the households in their franchise area are taking their telephone service. They typically price their service at 10 percent below the incumbent phone company. They have achieved, therefore, within a 5 or 6-year period a third of the marketplace.

You could argue that, again niceties of the pricing mechanics aside, it is quite possible that VoIP could move at a faster rate than that. The reasons it could move at a faster rate than that are, firstly, it could well have an incrementally lower price point and also, as we have touched on, it doesn't just give you telephony at a lower price. It gives you better telephony at a lower price in terms of additional services.

Mr. BARTON. Well, my time has expired. But I think it is going to be faster rather than slower. If that is the case, the other issue that we are going to have to address, probably not in this Congress but the next Congress, is this universal service situation.

If we have faster penetration in VoIP, it is going to make it—We are going to have to do universal service, in my opinion, totally different than we are doing it today.

With that, I yield back to the Chairman.

Mr. UPTON. Thank you. Mr. Engel.

Mr. ENGEL. Thank you, Mr. Chairman. I have a couple of thoughts and a couple of questions.

In 1996 we all thought we were passing one of the biggest reforms in telecommunications law, and in some ways we did. But in other ways, 1996 was already old technology, and the 1996 Act sections on the telephone industry were, obviously, written for an analog world, but today it is, obviously, all bits and bytes, ones and zeroes. So, obviously, things have changed.

So things have changed, and we are now on the verge of radically changing how voice telecommunications are handled in the United States and around the world, and I am beginning to think that we need to change our laws as well. Obviously, what the changes look like are important to provide clarity and surety to this industry and its investors.

I want to talk about a level playing field, because I really believe that, if we are going to be successful as legislators and allow the industry to grow and thrive, we have to do our best to ensure that there is a level playing field.

So if we do have regulations, they need to apply equally to all participants, and we have to do little to get in the way of these industries developing new and better products. I think that things are changing so rapidly that it is just impossible for us to think that we can over-regulate and do all kinds of things.

So I would be happy if anybody would care to comment on some of the things that I have said. I also would like to ask if anyone would care to comment on the fact that the cable industry is in-

vesting, obviously, billions of dollars to create digital broadband networks that it is funneling lots of services which are very exciting into consumers' homes, more programming, high speed cable modem service, and tradition cable telephony.

Traditional phone companies like Verizon are also investing billions to put more fiber into the ground, more coverage for high speed internet and more bandwidth. So given this growing investment, does this indicate a healthy, competitive market? Anyone care to comment on that or any of the other things I have said?

Mr. QUINTON. In terms of the competitive marketplace, as I said in my testimony, in my summary remarks, if you judge competitive market as seen from the consumer standpoint, then without it being true in all circumstances, I think it is most people's general observation that they have more choice. They have more providers offering them service at lower prices.

I think in the context of that, one thing that perhaps during the discussion here we perhaps should have devoted a bit more time to is the importance of wireless within that equation. We have talked about VoIP, and that is clearly very important. But again we shouldn't forget that there is something like 150 million cell phone users in the U.S., growing at a relatively fast clip, and we shouldn't also omit to take into account the fact that wireless is evolving not just as a voice platform but as a data platform as well.

So if you take into account what Verizon announced recently, just as one example, the investment of a billion dollars in the next 2 years to roll out to major markets nationally a high speed data service laid on top of their own wireless offering, it is not just what we see happening in the terrestrial wire line industry that we should focus on, but wireless as well because of the ubiquity of wireless service and the way that wireless can move from beyond just a voice platform to offering competition in the data world as well.

Mr. ZACHAR. I will jump in. I would echo what Adam said. If I were going to make suggestions as far as what kinds of things policymakers add, the legislature could look at UNE-P reform so you see more consistent UNE-P rates across the country and not \$47 in West Virginia and \$10 or \$12 in California.

I would say I would advocate some reasonable parity between the voice over IP services that are being provided by the Vonages and the cable companies, presuming that the services are comparable as to what the telephone companies are having to charge their customers.

Touching on wireless, spectrum management: The way that spectrum has been allocated historically is not relevant, I think, anymore to meet the needs of the wireless industry. For example, there is the rebanding of the 800 megahertz. Most people agree that it is a good idea, but it is taking a long time to move people around, because the historical incumbents, the people that were in place there.

Also speaking of zoning—or speaking of wireless, the difficulty in getting cell sites built so that people have improved coverage and we can get to E-911 is, I think, a very big issue; because we have talked an awful lot about voice over IP and high speed broadband, but there are some really interesting things happening on the wire-

less side, not just WiFi, 3G—it is around the corner, is about to occur, and there is some new technology; some are calling it 4G, 3G-and a half—that are, I think, really interesting that could help drive prices down and provide better coverage and not have to be connected to a cord.

Mr. ENGEL. Thank you. I am wondering if I could ask Mr. Balhoff just one quick question. How do you see the emergence of voice over internet protocol technology affecting competition in the communications marketplace in the long term?

Mr. BALHOFF. I think that we are probably going to see a stage where anybody who is able to offer high speed services at low prices to be benefited. So in the near term, I would expect that the cable operators are in very, very good position.

Over the long term, I think an interesting phenomenon is going to occur, and that is that the network providers are probably going to become more and more commodity-like, unless somebody gets a platform that is so superior to the other.

I know that the telephone companies' contention is that they would like to be able to provide such high speed fiber out there that they are able to offer 100 megabit plus symmetric services, which they believe would trump what is out there in the marketplace with the cable operators. But ultimately, a network is a network, and it is probably going to be more and more commodity-like, the more the intelligence that is driven out into the network.

So I suspect we are going to see entities like Microsoft and software providers and content providers who are probably greatly advantaged by the network that is out there. So the migration that we are going to go through is going to be away from our debate over cable or whoever has the bottleneck with the network, over to really who has the most superior services to drive across a network where ultimately prices are going to be driven lower and lower because of the nature of competition.

Mr. ENGEL. Thank you. Thank you, Mr. Chairman.

Mr. UPTON. Thank you. Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. It has been a great hearing, and I appreciate the testimony, and we are just back for the second session. So now all of us are diving back into a lot of these relevant issues, and we kind of forget those things. But when we go back home, you know, we are the ones that are getting broadband at our home or deciding to use our cell phones or not. We are the consumers, too. So we are not divorced from this from the public policy debate.

In my opening statement, I did mention enhanced 911, which we are real excited about and the movement going forward in the caucus. Really, a consortium of the PSAPs, the E-911 call centers and the cellular companies and the ILECs are all working together to try to get this stuff rolled out.

If voice over IP continues, as Chairman Barton has projected and most people are saying, would you think that, if a universal service and also the acquiring E-911—okay, here is the regulatory, I think—acquiring E-911 services over VoIP, and also a universal service charge—would that slow the deployment of voice over IP?

Mr. LOUTHAN. No, I don't believe that it would.

Mr. SHIMKUS. It would be a small percentage of the overall when you are talking about the billions of investments.

Mr. BALHOFF. Most of the reforms that have been proposed with respect to universal service are taking it from just what is in Section 254 of the Act, which is an assessment on interstate traffic and spreading it over a broader base. So the net effect, if it is really applied with some sort of parity, should be to minimize the effect on the individual connection or the revenues, as far as I can tell.

Mr. QUINTON. And my observation would be that, to some extent, again societal issues like 911, things that are a public good, in a way VoIP offering those actually could accelerate the rollout of VoIP, because currently, to the extent that somebody is concerned, for example, about cutting the cord from a regular phone, moving to a VoIP phone, they may well be concerned about 911 capability.

So to the extent that that is built into VoIP, it could actually make the offering more comparable. And if better service is there in other respects and prices are lower, then other things being equal, it could actually accelerate the move.

I don't think personally that, for example, VoIP carriers being asked to pay an appropriate share of the USF burden would materially shift the economics. They would still be able to provide a cheaper service. So from that point of view, I don't think that would be a constraint either.

Mr. ZACHAR. Whatever burdens there would be are not enough to—

Mr. SHIMKUS. That is what I thought. Thank you.

Let me go to the other great debating issue, and I know that we have talked about VoIP, and we have talked about cellular. It is interesting that those two that are more aggressive are actually moving and grabbing more market share are the ones that are the less regulated.

So when we are looking at terrestrial competition, the concern in this debate is how do we get more competition on the terrestrial side. The fear would be, well, we are going to over-regulate whatever we have now to slow them up. I am just talking from public policy debate here. We will hear that in the debate, versus easing the regulatory burden on other terrestrial providers to allow them to be incentivized to provide service.

I hate to bring up this point, especially with my friend, Mr. Pickering here. But you all probably did analyses on the Tauzin-Dingell legislation that we tried to put forth. In essence, some of us believed that that would have been helpful in leveling the playing field.

Would it have been, based upon your analysis? I mean, I'm sure you did that. You have all these big investors that are looking for—If you can't tell me, that is fine, but—

Mr. BALHOFF. Candidly, we felt that the—In our shop, we felt that the political forces that were aligned against the Tauzin-Dingell bill were such that it was not as likely to go through at that time. However—

Mr. SHIMKUS. So you didn't spend any time doing analysis of whether capital would flow?

Mr. BALHOFF. No, Mr. Shimkus, I did not say that.

Mr. SHIMKUS. Okay.

Mr. BALHOFF. But the issue is that in the triennial review, in effect, a lot of the issues that were raised in the Tauzin-Dingell actually were permitted to be applied, although relatively narrowly, and that is investment to the premise.

I do think that you raise a critical issue which was part of Tauzin-Dingell and was part of the triennial review, but I don't believe goes far enough, which is that I think that the real issue that we have to look at is how to incent investment. Without incenting investment, we cripple the future.

So my suggestion is not additional regulation, but it is to try to find a way that regulation is as low in terms of its intervention as possible, so that we find a way only to step in when there are things that go awry within the policy arena.

Mr. SHIMKUS. Mr. Chairman, I will end, but if anyone else on the panel want to finish up on this question, if you would allow them to, I would appreciate it. Anyone else want to add to that or are you just going to get out while the going is good? Man. All right, run for office. You'll get a little more guts.

Mr. UPTON. Mr. Pickering.

Mr. PICKERING. Thank you, Mr. Chairman, for having this hearing, and I look forward over the next few months to working with you as we address the critical issues and the next steps that we need to take.

To my friend, Mr. Shimkus from Illinois, you will be glad to know that, in my view, timing is everything; and whereas, before I believed it was very important to have the full implementation of the Act so that we could have the broadest degree of competition in as many forms as possible emerge and establish, and I think that is where we are today.

I think we have had the full implementation of the Act. We not only have competition from CLECs, whether it is in combination of their own networks or in resale, but we have, more importantly, wireless, cable, and we have this exciting emergence of voice over internet, and it is now time, in my view, to take the next step of major telecom reform, of adding into our policy and building onto what we did in 1996.

I think voice over internet is going to be quickly emerging, and it is the technology and the application that forces us as policy-makers to create a new structure, because as you have voice over internet explode, the underpinnings of universal service collapse. So it is a driver in trying to make sure that you have a predictable, sustainable universal service fund in the future.

As you have that form of competition and multiple platforms of competition, then we should be able to begin deregulating everything else. We need to make sure that, as voice over internet goes forward, that we don't have 50 states trying to regulate in different ways voice over internet.

I think that this is the catalyst that will cause a consensus, the stars to align for us to be able to have major reform, probably not in this Congress, but what we do in this Congress will shape the foundation for what we do in the next Congress, and I am looking forward to what that looks like.

I do think the recommendations that Mr. Zachar mentioned, spectrum reform, universal service—Well, I don't know if you men-

tioned universal service reform, but some type of rational and sustainable universal service approach.

What, if any, preemption should we have to protect voice over internet as we go forward, and what process do we need to address carrier access reform, and the deregulation of local incumbents on a going forward basis?

I have talked more than I asked any questions, but I do look forward, Mr. Chairman. I think that the stars are aligning, and this is the right time and the right place to begin a major reform of telecom. With that, I yield back my time.

Mr. UPTON. Thank you, Mr. Pickering. I want to respond to that as well, but I want to yield to Mr. Davis for a quick question before we finish.

Mr. DAVIS. Thank you, Mr. Chairman. I would like to ask Mr. Quinton and anyone else who would like to comment on this. You made a statement. Part of your statement was that the lack of broadband penetration in our country versus Korea and others seems to reflect a take-up deficit, more so than availability deficit.

Could you elaborate on that, and particularly what you think the cause of that is, and what issues you think the Congress should be addressing to deal with the take-up deficit?

Mr. QUINTON. Yes. I think the statistics—although the facts are relatively straightforward, if you look at who could get broadband if they wanted it, what you will see is that, through the period of the last decade or so as cable companies have upgraded their networks to two-way capability, most all companies with a cable video service could get data service from that provider. That is something like 70 million homes.

If you look at what the major phone companies have announced in just the few weeks as they have rounded off the year and announced their full year results, you will have typically heard from them that something in the range of 75 percent or more of their access lines are DSL capable. They are lines over which DSL could be provided.

In fact, one of the companies indicated that in the coming year they were going to increase that percentage to over 90 percent. Hence, my observation that, in terms of the availability of the service, it is there, and investment has been put into cable networks and to incumbent phone company networks to enable the service to be provided or to be taken up, should the end customer want to do that.

If you look at other markets around the world where penetration is higher, and the two that immediately come to mind as most relevant comparisons would be Korea which has the highest penetration globally and Canada which has close to the highest penetration—they are No. 2 and No. 3 on the ranking list and, obviously, you know, is fairly close to home—If you look at those two markets, what seems to have driven penetration there to high levels in the U.S. is, as I think the ITU set out in a report they did on broadband globally last September—What has driven penetration there is lower prices and prices driven particularly by what I think I described as “flourishing competition.” So again, in the U.S., I think the facts speak for themselves. Most people could get broadband if they wanted it. There has probably been an issue with

pricing that has held back demand. So there isn't a supply problem. There is a level of demand problem or issue.

Mr. ZACHAR. I would only add that the dial-up business in the United States was rather robust. AOL did a terrific job of spreading the gospel of the internet in the mid to late 1990's. It also, I think, has helped maybe encouraged people to—Maybe they didn't have to have broadband, whereas the more technologically sophisticated culture in Asia adopted this technology that much more quickly, as they did in cell phones.

Mr. DAVIS. Thank you, Mr. Chairman.

Mr. UPTON. Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I just want to—Many people know that, but today is my staff assistant, Courtney Anderson's last hearing here. Many of you worked with her out there. She helped pass 911 legislation, kids.us, and the enhanced 911 legislation that is still pending on the Senate side.

We are sending her over to the Senate so she can get the E-911 legislation passed on the Senate side. She is going to be working for Senator Brownback. She has been, obviously, as many of you know, a great staff assistant, and I am going to miss her dearly.

So this is her last swan song. I wanted to say thank you publicly.

Mr. UPTON. There is a lot of things that she can do to get that body moving over there. I want to just say, too, Courtney, we are going to miss you a lot. You have been great help, dot.kids, the whole gamut of things. I don't know what Mr. Shimkus is going to do. I don't know if he is going to bother to appear without you behind him. You have been a great credit to our side. That is for sure.

I just want to say in conclusion, I appreciate all of your comments and the members' attention to this as well today. Mr. Pickering put it well, that we have got a long—We have got a big challenge ahead of us. I think, Mr. Quinton, you said in your statement that 10 years, a decade, is a long time in the telecommunications industry.

Now when this Act was written in the mid-1990's, we didn't have Instant Messaging. I don't think a lot of people—Parents weren't too concerned about looking over their kids' shoulders, looking at the PCs in their house. Didn't have Blackberries. Didn't have any of this.

Yet the system has evolved in a very positive way. We are now at that threshold again. You all mentioned Voice over IP. That is the way—It's here. It is not coming. It is here. As we try to unleash the competitiveness of all the providers, to take the regulatory burdens off all the providers and to let this industry break out so that consumers as well as industry can make our lives, consumers' lives, quite a bit easier, we need to address the whole rewrite, I think, of the 1996 Act.

Now all of us here know it is not going to take a year. It is going to take more than that, but we are going to have a number of hearings throughout the year to get us ready for that challenge. That hopefully will be bipartisan. That should really start in an earnest way with the next Congress, but the homework has to be done now.

I appreciate every member's attention to this on both sides of the aisle as we begin to roll up our sleeves and address, really, that the future is here now.

I thank you very much for your attention this afternoon, and I look forward to the members' participation as we move to hearings throughout the year. Thank you. Good luck, Courtney.

[Whereupon, at 3:02 p.m., the subcommittee was adjourned.]

